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CITY OF  
**ATWATER**  
**GENERAL PLAN**

1981 - 2001

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CITY OF ATWATER  
GENERAL PLAN 1981 - 2001

PLANNING COMMISSION

Adopted: November 18, 1981

CITY COUNCIL

Adopted: May 24, 1982







RESOLUTION NO. 483-82

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF  
ATWATER APPROVING AND ADOPTING ATWATER'S  
GENERAL PLAN 1981-2001.

WHEREAS, in June 1980, the City Council of the City of Atwater appointed 40 members of the general public, including several residing outside the incorporated boundary, to the Atwater General Plan Review Committee; and

WHEREAS, said Committee, in form of four subcommittees, held a total of 76 meetings studying and discussing the physical, environmental, social and economic situation in the Atwater Planning Area, and submitted their recommendations; and

WHEREAS, after duly noticed public hearings, the Planning Commission found the Environmental Impact Report to be adequate, that all significant environmental effects that can feasibly be avoided have been eliminated, or have been reduced by mitigating measures to an acceptable level; and

WHEREAS, the Planning Commission found that there are some significant adverse effects which cannot be avoided, but that Atwater's need for more population in order to attract more commercial businesses and industry overrides the impacts identified; and

WHEREAS, on November 18, 1981, the Planning Commission adopted the General Plan 1981-2001, and forwarded their recommendations to the Atwater City Council.

NOW, THEREFORE, BE IT RESOLVED that the Atwater City Council after duly noticed public hearings and many months of deliberation, hereby

- a. certifies the Final Environmental Impact Report as being complete and in compliance with CEQA,
- b. integrates into the General Plan policies the mitigating measures identified in the Final EIR, but with some minor changes in the language, and after deletion of the following Air Quality mitigating measures:
  - paragraph 5 & 6 on page N-37,
  - paragraph 2, 8 & 9 on page N-39,
  - paragraph 5 on page N-40,
  - paragraph 5 on page N-41, and
  - sentences 2 through 5 of paragraph 2 on page N-43.

Furthermore, the Atwater City Council considered all alternatives to the proposed General Plan 1981-2001, and the significant adverse impact on the environment if the proposed General Plan is adopted, and makes the following findings:

1. That groundwater pollution through individual septic tanks can be mitigated and a significant adverse impact will be avoided by attaching the following conditions:

that one individual septic tank may be approved on a rare occasion if

- a. the proposed land use is of benefit to the City of Atwater,
  - b. is a non-intensive use that would not add to the groundwater pollution,
  - c. is granted for a temporary period of time, and
  - d. connection to the city sewer system is a mandatory requirement at the time it is accessible and economically feasible.
2. That population growth is not a significant adverse impact, but that it is desirable in order to attract more commercial and industrial businesses to the City of Atwater, as described in detail under "Issues" in the proposed General Plan; and
  3. That Atwater's social and economic need to provide for more population overrides the adverse impacts that cannot be avoided.

The City Council hereby approves and adopts the General Plan 1981-2001 for the City of Atwater.

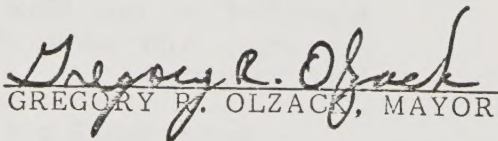
The foregoing resolution is hereby adopted this 24th day of May, 1982.

AYES: Cupples, Dash, Mitchell, Zimmerman, Olzack

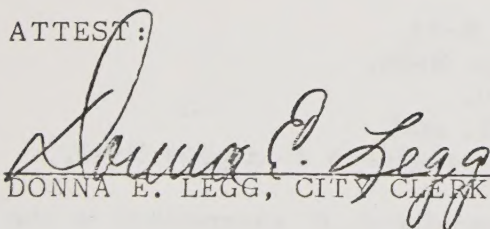
NOES: None

ABSENT: None

APPROVED:

  
GREGORY R. OLZACK, MAYOR

ATTEST:

  
DONNA E. LEGG, CITY CLERK



ATWATER CITY COUNCIL

Gregory Olzack

Leona Zimmerman

John Cupples

Bob Mitchell

Linda Dash

ATWATER PLANNING COMMISSION

Bob Ayers, Chairman

Tom Dandy

Art Browner

Bill Effinger

Mike Wiley

PLANNING DEPARTMENT

Trudi Mestnik, Planning Director

Tim Miller, Associate Planner

Walt Huber, Building Inspector

Margie Garland, Secretary





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Harry Simmons

General Plan prepared by:

Trudi Mestnik, Planning Director  
Barbara Riggs, Secretary  
Margie Garland, Secretary  
Jackie Blevins, Clerk Typist





# **ELEMENTS**

**INCLUDED :**

**LAND USE**

**CIRCULATION**

**SAFETY**

**SEISMIC SAFETY**

**NOISE**

**OPEN SPACE**

**CONSERVATION**

**HOUSING**

**SCENIC CORRIDORS**



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## PREFACE

By virtue of its location, Atwater has the potential for almost unlimited sprawl. Without adequate concern for conserving community resources through directing and guiding growth, the physical and financial resources of the City could be severely burdened. Revenues do not cover expenditures, particularly in "bedroom" communities. Uncontrolled growth can create high levels of air and water pollution, destroy agricultural lands, and encourage building development that is quickly "thrown together", lacking adequate planning and design, and accelerating the formation of urban slums.

Certainly, planning goals are perplexing and controversial. Official decisions are often difficult. Planning changes the value of land, affects taxes, influences voting, and measures the effectiveness of "City Hall" in providing a satisfactory urban life for its citizens. By calling together an Atwater General Plan Review Committee, the City Council was assured of learning current public opinion, as expressed through the goals and policies that follow.

If Atwater is as concerned about its community as any other city, and as strict and demanding in its policies as the next, the Atwater community and its way of life can be conserved while still allowing orderly, logical and planned development. By taking this posture, Atwater serves notice that development which is not acceptable to another community, is not necessarily acceptable here. The high standards of architecture, planning and design, which developers have been able to meet in other communities, must also be met in Atwater. Atwater will be on par with a growing number of cities which demand - and receive - the best that can be offered. And this position is justified, because Atwater has much to offer in return.

One of the Committee's recommendations concerning future revisions to the General Plan or any of its elements is as follows:

"In reviewing proposals for General Plan amendments, local officials and citizens shall remember that the General Plan is a policy document for the entire community, and that it may only be amended "in the public interest". In other words, the plan should only be amended when the City, with the support of a broad consensus, determines that a change is necessary, and that it will benefit the community, not merely because a property owner or group of citizens desires the amendment."

Change is inevitable, but decisions about the future made by the people can help insure that change is orderly and in the best interest of the entire community.

#### IN APPRECIATION

A deep-felt "Thank You" is given to the dedicated citizens of the General Plan Review Committee for their advice and guidance in preparing this proposal for the next twenty years of our community. Their recommendations are included in the policies, and reflected throughout this General Plan.

*Trudi Mestnik*

Trudi Mestnik

, Planning Director



**ATWATER**

**AND IT'S NEIGHBORS**



## LOCATION AND GEOLOGIC HISTORY

The City of Atwater is located on the east side of Merced County 100 miles southeast of San Francisco and 275 miles northwest of Los Angeles, near the geographic center of California in the San Joaquin Valley. It is bordered by two mountain ranges: to the east lies the granitic Sierra Nevada, and to the west the Diablo Range of sedimentary and metamorphosed sedimentary rocks. Small intermittent streams enter the valley from the semiarid mountains of the Diablo Range, but soon are lost on alluvial fans, while perennial rivers flow from the more humid and larger drainage areas of the Sierra Nevada. Water has spread over the surface, has deposited sand, silt and clay - eroded from pre-existing soils and rocks, and has built up large coalescent alluvial fans along each side of the valley. The larger and more gently sloping fans on the east side are built up principally by deposits from granitic rock sources, whereas the smaller and generally more steeply sloping fans on the west are built up by material originating in the sedimentary rocks of the Coast Range. As a result, the valley floor consists mainly of two kinds of alluvial materials that differ widely in mineralogical origin, which is reflected in the soils.

All the rivers and creeks entering the valley, except the San Joaquin River, have built fairly well defined alluvial fans that form slopes of the valley floor. The San Joaquin River, however, is well entrenched until the river reaches the valley trough. Some of the alluvial material is fresh and unweathered, some has been developing into soil for thousands of years. Texture ranges from fine clay and silt in the lower basin area, to gravel and cobblestone in the old high terraces.

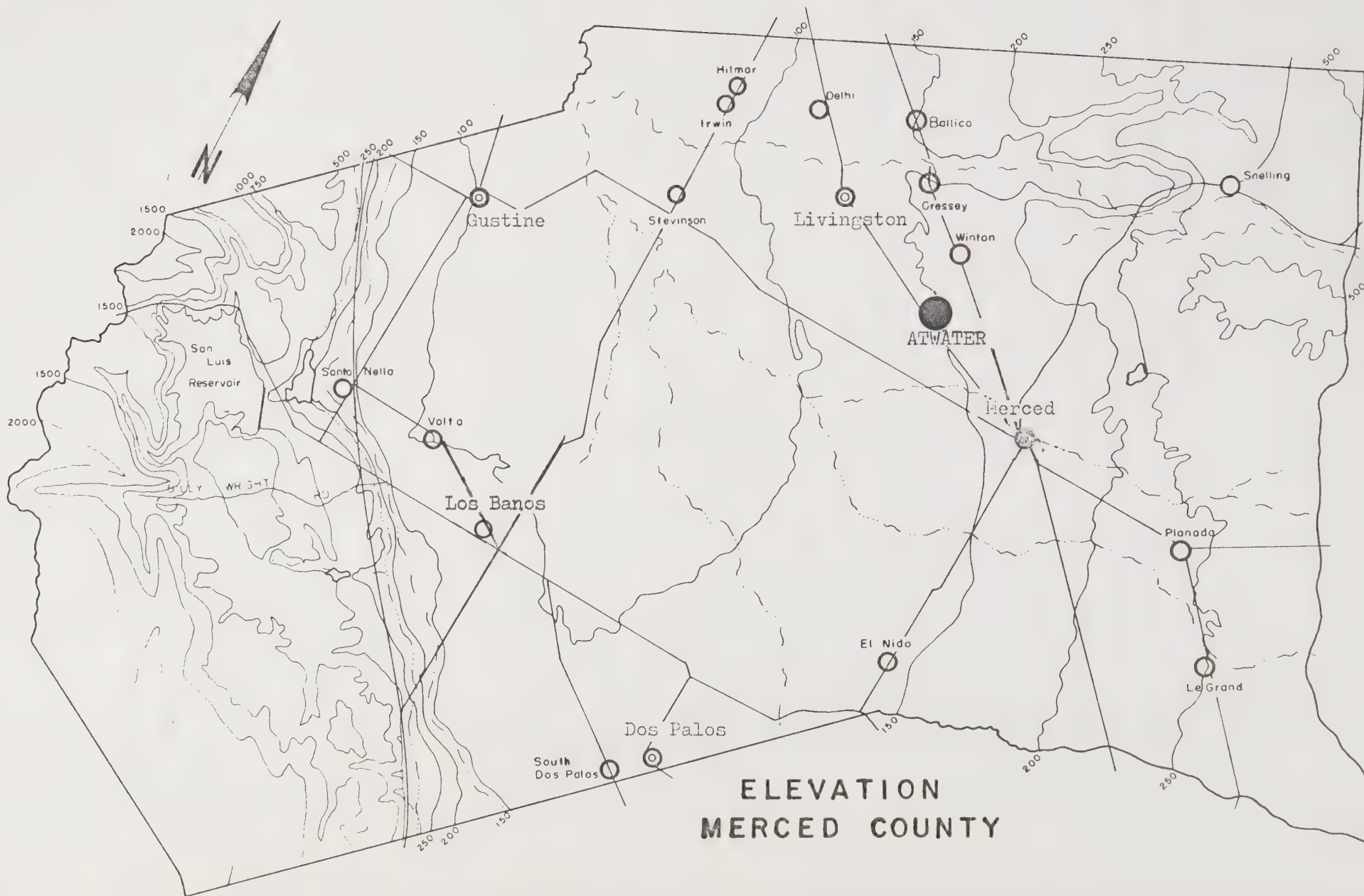
The Sierra Nevada is largely one gigantic block that has been tilted westward, caused by faulting and uplifting of the east edge. The western side is depressed, and overlain by the sedimentary deposits of the valley. The basement complex of the Sierra Nevada consists of metamorphosed shale, sandstone, limestone, and chert, intruded by plutonic rocks. Fossils found in the metamorphosed rocks in a few localities indicate that the sea invaded the area at various times in the Paleozoic era, and also in the Triassic and Jurassic periods.

The Coast Ranges in the west, the barrier between the Great Valley and the Pacific Ocean, evolved as a result of folding and faulting, and are composed chiefly of sedimentary rocks that are sharply deformed into many folds. They are broken by numerous faults, the San Andreas Fault being the most notable structural feature. The predominant rocks of the Coast Ranges are resistant marine sedimentary rocks of Jurassic and Cretaceous age. Older igneous and metamorphic rocks make up most of the remainder of the surface exposures, and underlie the sedimentary rocks at depth. To the east the rocks of the Coast Ranges dip steeply under the alluvial fans of the valley, forming an abrupt boundary with hardly any transitional foothill belt between the two.

While the valley is barely above sea level, the foothills of the Sierra Nevada in the east rise to 500 feet within Merced County, and the Coast Range has an elevation of 2,000 feet on the western County border.

The City of Atwater has an elevation between 145' to 160', and presently encompasses 4.14 square miles.

4-5





## MERCED COUNTY

The original inhabitants of the northern part of the San Joaquin Valley in which the County of Merced is now located were a tribe of Yokuts Indians. The first white men to enter this vicinity were deserters from the Spanish armies, who probably appeared as early as 1769.

In the 1800's, several Spanish expeditions were sent into the valley in an unsuccessful attempt to establish missions. This area was an arid plain, bisected by a river that was to be christened "El Rio de las Mercedes" (The River of Mercy) by a thirsty band of Spanish soldiers who discovered its cool waters in 1806. Both, the City and the County of Merced take their names from this river.

Settlement in the area came slowly. The stage coach arrived in 1850, and soon American settlers appeared, growing cattle and wheat. In 1871, the Central Pacific Railroad extended its tracks through our area, laying out towns along its route. Construction was rapid, more and more people settled in the area, and the wheat growing was expanded into numerous other agricultural varieties.

Today the County ranks 6th nationwide in agricultural production, and has a total population of 137,489.

## THE PLANNING AREA

The economy of the east side of Merced County is dominated by two factors, agriculture and Castle Air Force Base. Today, the county ranks sixth among California counties in gross farm receipts, which means that almonds, milk and cattle, poultry, cotton, sugar beets, sweet potatoes, and hogs are the most important products. This is an increase from 1968, when its California rank was ninth and its U.S. rank was sixteenth. Gross farm receipts amounted to \$507 million in 1977. Only net farm income enters the personal income statistics directly, but supports personal income indirectly through local purchase of agricultural services, fertilizers, weed killers, farm machinery, and other farm cost items.

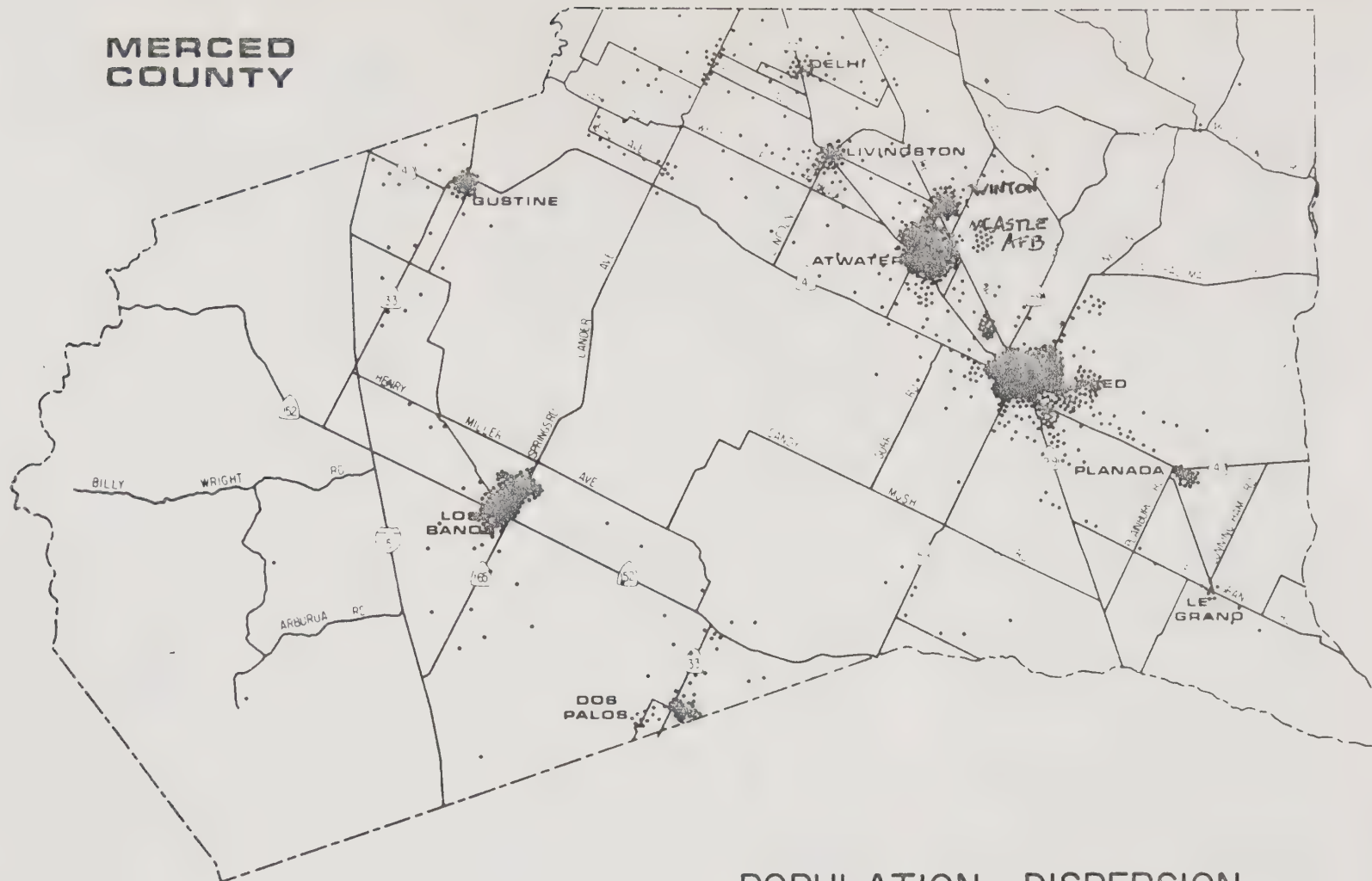
Agricultural productivity increases due to mechanization have led to a decline in agricultural employment relative to total civilian employment. Average annual agricultural employment was irregular during the 1960's, peaked at about 13,500 in 1969, but has declined consistently since then.

The other major force in the economic base is Castle Air Force Base. Personnel strength has increased in recent years. Current personnel number over 8,000 military and civilians, making it by far the largest employer in the area. Payrolls, purchases by the Base, and Federal education payments for children of the military generate about \$88 million annually in the County economy.

The manufacturing base has broadened in Merced to include the aluminum products, carpets and drapes, travel trailers, packaging film and health products. Still under construction is World Press, printing the TV Guide.

The cooperative heritage that has existed between Castle and the surrounding communities is exemplified in the Base-Community Council. The Council was organized in 1955, with civilian appointees from the Merced County Board of Supervisors, City Councils of Merced and Atwater, and the Chambers of Commerce of Merced County, Merced City and Atwater. Military representatives serve by position and are appointed by the Wing Commander.

# MERCED COUNTY



POPULATION DISPERSION  
EACH • = 100 PERSONS

## Castle AFB

Castle Air Force Base is located in Merced County, adjacent to the City of Atwater, and approximately seven miles northwest of the City of Merced. The base covers a total area of 2,570 acres with its runway, industrial area, housing and recreational facilities. Part of the base was annexed by Atwater many years ago, and U.S. Government housing developments, Castle Gardens and Castle Vista, are also inside City Limits.

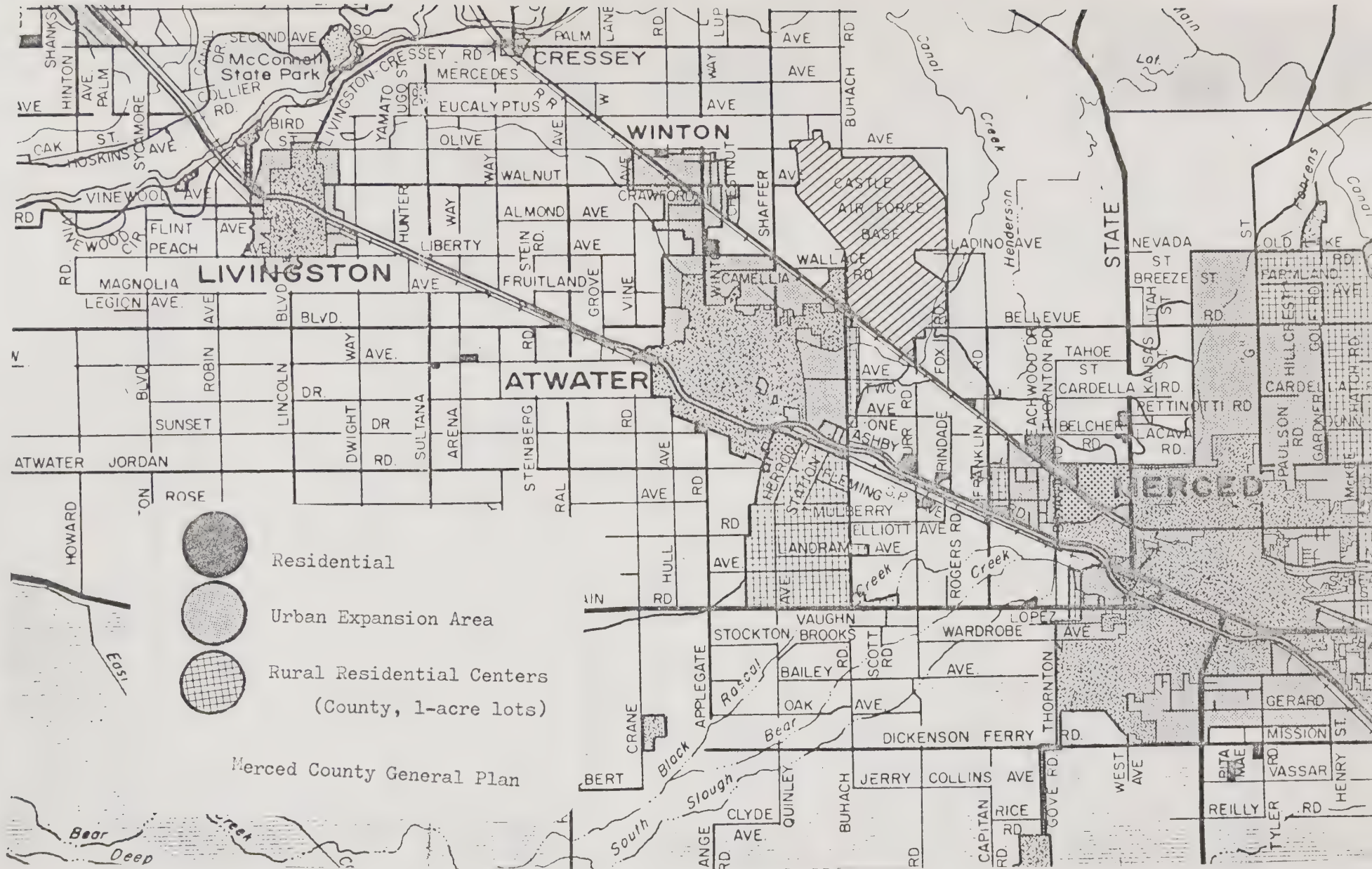
As part of the Strategic Air Command, Castle AFB's mission is to develop and maintain a combat-ready force, capable of conducting long-range bombardment operations as directed by the Strategic Air Command. Additionally, the base trains all B-52 G/H model Stratofortress and KC-135 Stratotanker combat crews for the entire Air Force.

Castle AFB was constructed in 1941. Originally, the base was known as Merced Army Air Field and was under the control of the Army-Air Forces, Western Flying Training Command. It was used as a single engine aircraft basic training base. After World War II, the base was selected as the future home of the 93rd Bombardment Wing (SAC).

The 93rd Bombardment Wing was activated July 28, 1947, and it began its new mission at Castle. The Wing, at that time, was equipped with B-29 Heavy Bombardment type aircraft. In 1952, the decision was made to convert the 93rd Bombardment Wing to a B-52 crew training unit for the Strategic Air Command. A vast remodeling and expansion program was launched to prepare the base for this new mission. The first combat ready B-52 crews were graduated in January, 1956. In 1957, combat crew training commenced for KC-135 Stratotanker crews. Since 1957, the 93rd Bombardment Wing has trained all B-52 G/H and KC-135 crews for the entire Air Force.

Castle Air Force Base's mission has remained the same for over fifteen years. This is to maintain a combat-ready force capable of long-range bombardment operations as directed by the Strategic Air Command. B-52 and KC-135 training was, at one time, treated as a part of the dual wing







mission, maintaining equal status with bombardment operations. Training is now a secondary mission.

Today, Castle AFB is an integral part of the local communities. The base has contributed to the economy of the area during the past several decades. The neighboring communities provide for housing requirements and goods and services for the base and its working population of military and civilian employees. Appropriate land use planning can help to ensure this relationship will not be adversely affected.

#### Winton

About one mile west of Castle Air Force Base boundary, and one mile north of Atwater lies Winton, a County settlement.

The general area was used for cattle and grain until 1879, when the Farmer's Canal Company built ditches and a tunnel to supply water to this area.

Winton was organized as a settlement project in 1912. The town was named for one of the surveyors who conducted the survey of the town, G. E. Winton.

Extensive farming, but particularly fruit and vegetables, is characteristic of Winton. Dairying, orchards and vineyards are some of the farming projects. There are several businesses in Winton to supply the needs of farmers, process the crops, and provide neighborhood shopping.

Because of nearby Castle Air Force Base, Winton is growing. Many of the families attached to the base have made their homes in the town.

#### City of Merced

After the coming of the railroad in 1871, Merced grew rapidly. In 1872, the residents of Merced County voted to move the County seat from Snelling to Merced, where the new Court House was dedicated three years later. On April 1, 1889, Merced was incorporated. By 1920, the popu-

lation was 3,974, and passed the 10,000 mark in 1940. Today the official count is 37,957 people.

Being the County Seat, as well as the "Gateway to Yosemite", with the Yosemite Valley Railroad from Merced to El Portal, Merced's economy grew rapidly. They now have a Junior College, all County facilities (e.g. Municipal and Superior Courts, an enormous Merced County Hospital, etc.), a regional shopping center, several industrial parks, a commercial airport, and State and Federal offices like Social Security, Unemployment Office, and Department of Motor Vehicles.

## THE CITY OF ATWATER

In order to fully understand the character of Atwater today, and in an attempt to project what the community's future will be, it is necessary to have a general impression of the history of the area, and the growth factors that have contributed to the changes that have been taking place.

### Atwater's History

The following history has been prepared by Jack Bleiman, Researcher for the Atwater Historical Society, and written for the sole purpose of including it in this General Plan.

Among the many early settlers that helped to build this area into what it is today were perhaps two personalities that stand out above all others, John William Mitchell and Marshall D. Atwater, both men found their way to this valley from Woodbury, Connecticut.

John Mitchell arrived in San Francisco in 1850. After a short stay there working for \$12 a day as a carpenter, he acquired enough money (\$100) to purchase a scythe and swath. He headed for the Stockton area where he cut grass and made a considerable amount of revenue from the hay he provided the teamsters. Following this employment, Mr. Mitchell went into the business of supplying transportation between Stockton and the mining district of Calavaras. After acquiring a small amount of extra cash, and on learning that land was available for the asking in the San Joaquin Valley, Mitchell invested in large holdings of land for \$1.25 per acre, even before the surveys were completed, using greenbacks worth 75¢ in gold. It is estimated that all together his holdings totalled half a million acres. His land holding covered an area from Keyes in the north to Herndon in the south.

Mitchell induced men to dry farm this ground. He would rent 2000 acres to each tenant. He would furnish plows, seed and wagons, as well as the machinery. He even went as far as to build homes for his renters. The grains raised were wheat, rye and barley. In 1877, there was so much

produced from Mitchell's immense holdings that it took 34 ships, each holding 1000 tons, for shipment to England.

Although Mitchell was married, they had no children of their own. His wife passed away several years before he did. Mr. Mitchell succeeded in influencing three of his nieces and their families to move to this area from Connecticut. They were Emma Crane, Mary Geer and Ella Bloss. Ella was the wife of George Bloss Sr.

When John Mitchell passed away in 1893, he left an estate of 117,500 acres in land alone and his heirs caused to have formed the Fin de Siecle Investment Company in March 1899. (Fin de Siecle meaning End of the Century). It was this company that was responsible for the laying out of the City of Atwater.

Another prominent and successful farmer in Merced County was Marshall D. Atwater. Atwater had been farming a part of the Mitchell land since 1869. He later rented 6000 acres between what is now the Southern Pacific Railroad and the present community of Winton. In 1870, Mr. Atwater purchased 4,680 acres on the road that leads to the Merced River, approximately six miles northeast of Merced. It was here that he built his home. He did, however, have a warehouse located in our community along what is now Atwater Boulevard and in 1872, when the Central Pacific Railroad, a forerunner to the Southern Pacific Railroad, was building a road through the valley, Atwater requested that they place a switch and spur line to his warehouse so that his grain could be easily shipped to market from this location.

This was accomplished and from then on the area became known as Atwater's Switch. It remained a switching area until 1888, at about the same time that Yosemite Lake was built. It was at this time that Atwater became an unincorporated community in Merced County. It was to remain so until 1922, when after a census was taken by Margarete Crookham which registered 600 people, the fathers decided it was time to incorporate. On July 3, 1922, a petition for incorporation of Atwater was filed and an election

was held August 11. Election results revealed that 140 voted for incorporation and 20 against.

At the same time, the first group of trustees were elected to serve the people of Atwater. Charles Osborn and George Bloss Jr. each received 103 votes; Clarke Ralston 100 votes; Alfred R. Neves 99 votes and Thomas Wayne 97 votes. Also elected were Archibald T. Rector as City Clerk and Bate D. Garloc was the City's first treasurer.

On August 25, the first Board of Trustees met in the real estate office of W. H. Osborn on Front Street with George Bloss presiding.

The first City tax rate imposed on the community was \$1 per hundred assessed valuation.

#### Atwater Today

Since incorporation, the City had a steady population growth of between 2 - 4 percent until, in the second half of the seventies, a "housing boom" developed. The land in and around Atwater was still "affordable" compared to the remainder of the State. Migration to Atwater and other parts of the valley started, and will continue as people seek a better quality of life.

There are more than 800 single-family and apartment units approved, but yet to be constructed. Approval has not always addressed sewer, water, school capacities, traffic or storm drainage.

Most of the City's financial reserves have now been spent on or committed to needed public improvements. Other improvements still need to be addressed before new development can occur. Policies on items such as the existing groundwater supply and the threat to the water quality by individual septic tanks in the County need to be regulated. Rural Residential Centers have been approved and pose potential future problems.



A Public Works Element to the General Plan has been recommended by the General Plan Review Committee, to get a detailed evaluation of the recent situation. No information was available at the time of this writing.

#### Atwater's Future

By virtue of its physical location, Atwater has the potential for almost unlimited sprawl.

Without adequate concern for conserving community resources through guiding and directing growth, the physical and financial resources of the City could be severely burdened. Revenues do not cover expenditures, particularly in the "bedroom" areas. Uncontrolled growth can accelerate congestion and overcrowding; it can destroy open spaces and other natural areas as great pressure is placed on cheap, easily developed land.

Uncontrolled growth can create high levels of air and water pollution and generate enormous quantities of solid waste. Uncontrolled growth encourages building development that is quickly "thrown together", lacking adequate planning and design, accelerating the formation of urban slums. And, most frightening of all, emphasis on outward sprawl away from the older areas leads to formation of a thriving, suburban ring which encompasses a struggling inner city.

But, Atwater has the opportunity to heed the lessons which so many larger Cities have learned too late. This General Plan proposes an orderly, well-planned growth rate of about 3% per year, if it benefits and complements the City.

If Atwater is as concerned about its community as any other City, and is strict and demanding in its policies as the next, the Atwater community and its way of life can be conserved while still allowing orderly, logical and planned development.

By taking this posture, Atwater serves notice that development which is not acceptable to another community is not necessarily acceptable here. The high standards of planning, architecture, and design which developers have been able to meet in other communities must also be met in Atwater. Atwater will be on par with a growing number of cities which demand--and receive--the best that can be offered. And this position is justified because Atwater has much to offer in return.

ACREAGE AND POPULATION BY THE YEAR 2000  
CITY OF ATWATER

LAND USES	TOTAL ACREAGE	%	ACRES DEVELOPED	ACRES VACANT	% VACANT	DENSITY UNIT/AC	TOTAL UNITS	PPH	POP.
<u>INSIDE CITY LIMITS (1981)</u>									
Residential	1,270	48.0	1,032	238	18.7	6.22	6,421	2.85	18,270
Commercial	241	9.1	119	122	50.6				
Industrial	263	9.9	70	193	73.4				
Public or Open Space	873	33.0	873	---	---.-				
Total	2,647	100.0	2,094	553	21.0		<u>6,421</u>		<u>18,270</u>
<u>INFILL</u> (Vacant residential land above)				238		6.0	<u>1,428</u>	3.0	<u>4,284</u>
<u>PRIMARY GROWTH AREA</u>									
Residential	532	54.8	24	508	95.0	8.0	4,064	3.0	12,192
Commercial	68	7.0	--	68	100.0				
Industrial	32	3.3	32	--	---.-				
Public or O.S.	153*	15.8	143*	10	6.5				
Urban Reserve (C or M)	185	19.1	--	185	100.0				
SUBTOTAL	970	100.0	199	771	79.5				
TOTAL							11,913		34,746
<u>CASTLE AIR FORCE BASE</u>	2,570 acres		2,570						
<u>URBAN EXPANSION AREA</u>	(Not included in Urban Expansion Area)								
Agricultural Preserve	988.0 acres		(108 acreas presently rural residential 880 acres in agricultural use, held in reserve for future industrial, commercial, residential use, open space or public)						

\*includes Rancho Del Rey Golf Course

Population

50,000

45,000

40,000

35,000

30,000

25,000

20,000

15,000

10,000

1980

1985

1990

1995

2000

18,270

58,595  
@ 6 %

Year  
2001

48,477  
@ 5 %

40,034  
@ 4 %

32,997  
@ 3 %

27,149  
@ 2 %

## POPULATION PROJECTION





**THE  
GENERAL  
PLAN**



## THE GENERAL PLAN

California's law governing local planning and land use regulation has a long history. The first law enabling preparation of local general plans passed in 1927. Not until 1955, however, did legislation require the adoption of a general plan with elements as we know them today: Land Use and Circulation. Since then, the legislature has added seven elements to the general plan, bringing the total to nine:

- Land Use
- Circulation
- Housing
- Conservation
- Open Space
- Seismic Safety
- Noise
- Safety, and
- Scenic Highways.

Local agencies may adopt additional elements dealing with other subjects which in the judgment of the planning agency relate to the physical development of the community. When adopted as a part of the general plan, these optional elements have the same force and effect as required ones, and expand the regulatory authority of the local agency through the requirements that zoning and subdivisions be consistent with the general plan (1971).

By requiring each city and county to prepare a general plan, the Legislature has indicated its belief in the necessity of an officially adopted statement of local policy for the development of each community. By specifying the content of the general plan, the Legislature has established the State's policy concerning the basic responsibilities of local government for planning and development. Additionally, the Legislature has declared that:

Decisions involving the future growth of the state, most of which are made and will continue to be made at the local level, should be guided by an effective planning process, including the local general plan, and should proceed within the framework of officially approved state goals and policies directed to land use, population growth and distribution, development,

open space, resource preservation and utilization, air and water quality, and other related physical, social and economic development factors. (Government Code Section 65030.1)

The Legislature has also directed the Governor to prepare and regularly revise a State Environmental Goals and Policies Report. Governor Brown adopted the most recent revision in February 1978. Entitled An Urban Strategy for California, it sets three priorities for the location of new development:

1. Renew and maintain existing urban areas, both cities and suburbs.
2. Develop vacant and under-utilized land within existing urban and suburban areas and presently served by streets, water, sewer, and other public services. Open space, historic buildings, recreational opportunities, and the distinct identities of neighborhoods should be preserved.
3. When urban development is necessary outside existing urban and suburban areas, use land that is immediately adjacent. Noncontiguous development would be appropriate when needed to accommodate planned open space, greenbelts, agricultural preservation, or new town community development.

By signing Executive Order B-41-78, the Governor made the Urban Strategy the policy for all state agencies, departments, commissions, boards, and offices. Subsequently, the State Public Works Board adopted on April 28, 1978, the following resolution based on the Urban Strategy:

It is the policy of the State Public Works Board that the capital outlay programs of state agencies should, to the extent possible, encourage urban development within existing urban areas and be consistent with local plans and objectives.

Time and time again, the Legislature has reaffirmed the State's interest in local planning. The following set of policies is adapted from existing statements of legislative intent and policy statements by the Administration. Along with the three development priorities from the Urban Strategy, they represent perhaps



the most comprehensive statement of current state policy which should guide local planning.

1. To maintain, improve, and enhance the quality of air, water, and land resources according to state and national standards and local needs.
2. To ensure the preservation of open space lands, for scenic beauty, recreation, the conservation of natural resources, the production of food and fiber, the separation and definition of developed areas, and the protection of public health and safety.
3. To protect the state's most productive farm and rangelands from conversion to non-agricultural uses.
4. To foster the provision of "a decent home and a suitable living environment" for "all economic segments of the community."
5. To conserve water, air, and energy by considering the effect of future development on these resources and by encouraging new development which uses public facilities currently available and minimizes the need to travel.
6. To provide transportation facilities and services that are adequate and efficient and that significantly reduce hazards to human life, pollution, noise, disruption of community organization, and damage to the natural environment.
7. To identify and reduce hazards to health and property from natural and man-made conditions, including floods, fires, landslides, soil erosion, seismic activity, excessive noise, and congested and unsanitary living conditions.

With Section 65030 of the California Government Code, the legislature declared the state's policy and legislative intent is that:

"California's land is an exhaustible resource, not just a commodity, and is essential to the economy, environment and general well-being of the people of California. It is the policy of the state and the intent of the Legislature to protect California's land resource, to insure its preservation and use in ways which are economically and socially desira-

ble in an attempt to improve the quality of life in California."

"That decisions involving the future growth of the state, most of which are made and will continue to be made at the local level, should be guided by an effective planning process, including the local general plan, and should proceed within the framework of officially approved statewide goals and policies directed to land use, population growth and distribution, development, open space, resource preservation and utilization, air and water quality, and other related physical, social and economic development factors."

"It is further the policy of the state and the intent of the Legislature that land use decisions be made with full knowledge of their economic and fiscal implications, giving consideration to short-term costs and benefits, and their relationship to long-term environmental impact as well as long-term costs and benefits."

Local governments may amend their general plans no more than three times a year. However, if the council finds itself frequently making piecemeal amendments, major defects may exist in the general plan. Instead of eroding the plan further through amendments, a complete revision should be undertaken.

#### CITIZEN PARTICIPATION

The State Legislature has underscored the importance of citizen participation in the planning process at all levels of government:

It is . . . the policy of the State and the intent of the Legislature that each state, regional and local agency concerned in the planning process involve the public through public hearings, informative meetings, publicity and other means available to the,

and that at such hearings and other public forums, the public be afforded the opportunity to respond to clearly defined alternative objectives, policies, and actions. (Government Code Section 65033).

State law specifies that in preparing a general plan, "the planning agency shall consult and advise with . . . civic, educational, professional and other organizations, and citizens generally to the end that maximum coordination of plans may be secured and properly located sites for all public purposes may be indicated on the general plan" (Government Code Section 65304). Other sections of the Government Code require that prior to adopting a general plan, an element, or amendment to a general plan, the planning commission and legislative body each must hold at least one public hearing (Government Code Sections 65351 and 65355).

In designing a program to secure citizen participation, public officials must be clear on what is to be accomplished through citizen involvement. In general, the program should address at least four objectives:

- . Identify community values and goals that will serve as the foundation of the plan.
- . Educate the public about the major issues, problems, and opportunities to be addressed in the plan.
- . Allow the public the opportunity to evaluate alternatives and to participate in choosing the preferred alternative.
- . Create an atmosphere in which conflicting demands for limited community resources can be resolved.

#### RELATIONSHIPS AMONG ELEMENTS AND ISSUES

The law's division of the required contents of a general plan into nine distinct elements is more a product of the incremental nature of the legislative process than a conscious design. These artificial distinctions mask

In terms of statutory language, the requirements for the elements overlap and intertwine. For instance, geologic hazards are mentioned specifically in both the seismic safety and safety elements. The concerns of both these elements appear, in turn, under the definition of "open space for public health and safety" in the requirement for the open-space element. Open space is in turn mentioned as one of the categories to be addressed in the land use element. Similarly, natural resources are to be addressed in the open-space and conservation elements as well as in the land use element. As another example, the noise element is directly tied to the land use and circulation elements. The following diagram illustrates these statutory links:





The issues to be addressed in the general plan interrelate structurally and functionally. The consideration of fire hazards in wildland areas, for instance, involves questions of vegetation, topography, weather, availability of water, adequacy of the road system and fire protection services, density of development, and even soil erosion. Similarly, the consideration of housing is directly linked to questions of the availability of land, the adequacy of public services, seismic, geologic, and fire hazards, and noise.

Such structural and functional interrelationships point up the problems of treating issues in isolation and the need to think of the general plan as an integrated whole.

#### THE ATWATER GENERAL PLAN

The Atwater General Plan was adopted in January 1968 (containing Land Use and Circulation Elements) and has been revised several times during the 13 years following adoption.

The additional seven elements were adopted in 1972, 1974 and 1975, when required by law, and have been updated as the State Legislature added new requirements, or new scientific or technical information became available.

The 40-member Atwater General Plan Review Committee was appointed by the City Council to develop goals and policies which would be reflected in a comprehensive plan for the community.

The goals established by the Atwater General Plan Review Committee must be directly reflected in this comprehensive plan for the Atwater Area if the basic principles and decisions which concern the lives of the people in the area are to be based upon the needs and concerns of the community as viewed by the citizens themselves.

Within the next twenty years, we can anticipate a total population of 35,000 persons. The impact of this growth will be phenomenal--it

demands that new and creative planning programs and responses be developed. A clear-cut set of public policies or goals, blending the people's hopes for their city will provide a strong basis for the future activities of all public agencies. Without this approach, providing guidance and direction for growth, single-purpose plans and unrelated projects will generate conflicts and disorganization which are costly to the taxpayer.

Certainly, planning goals are perplexing and controversial. Official decisions are often difficult. Planning changes the value of land, affects taxes, influences voting, and measures the effectiveness of "City Hall" in providing a satisfactory urban life for the citizens. By calling together an Atwater General Plan Review Committee, the City Council was assured of learning current public opinion, as expressed through the goals and policies that follow. The committee also offers the City decisionmakers valuable insight into the problems which have been studied and discussed, providing a sounder basis for future planning decisions.

Change is inevitable. The future begins today. But decisions about the future made by the people now can help insure that change is orderly and in the best interests of the entire community.

Three of the Committee's recommendations concerning future revisions to the General Plan or any of its' elements are as follows:

"That no amendment or revision to the General Plan be considered for a period of at least one year after adoption of the 1981 General Plan, except when it is of importance to the City."

"In reviewing proposals for General Plan amendments, local officials and citizens shall remember that the General Plan is a policy document for the entire community, and that it may only be amended "in the public interest". In other words, the plan should only be amended when the City, with the support of a broad-consensus, determines a change is necessary, not merely because a property owner or group of citizens desires the amendment."

"To insure that this document remains a truly viable and ongoing instrument, we recommend that a Standing Citizens Advisory Committee, composed of members of the 1980 General Plan Review Committee, be formed.

The function of this Committee shall be to annually:

- a. Review all proposals for revision of the General Plan, and
- b. Monitor the General Plan to assure that all policies approved are being implemented."

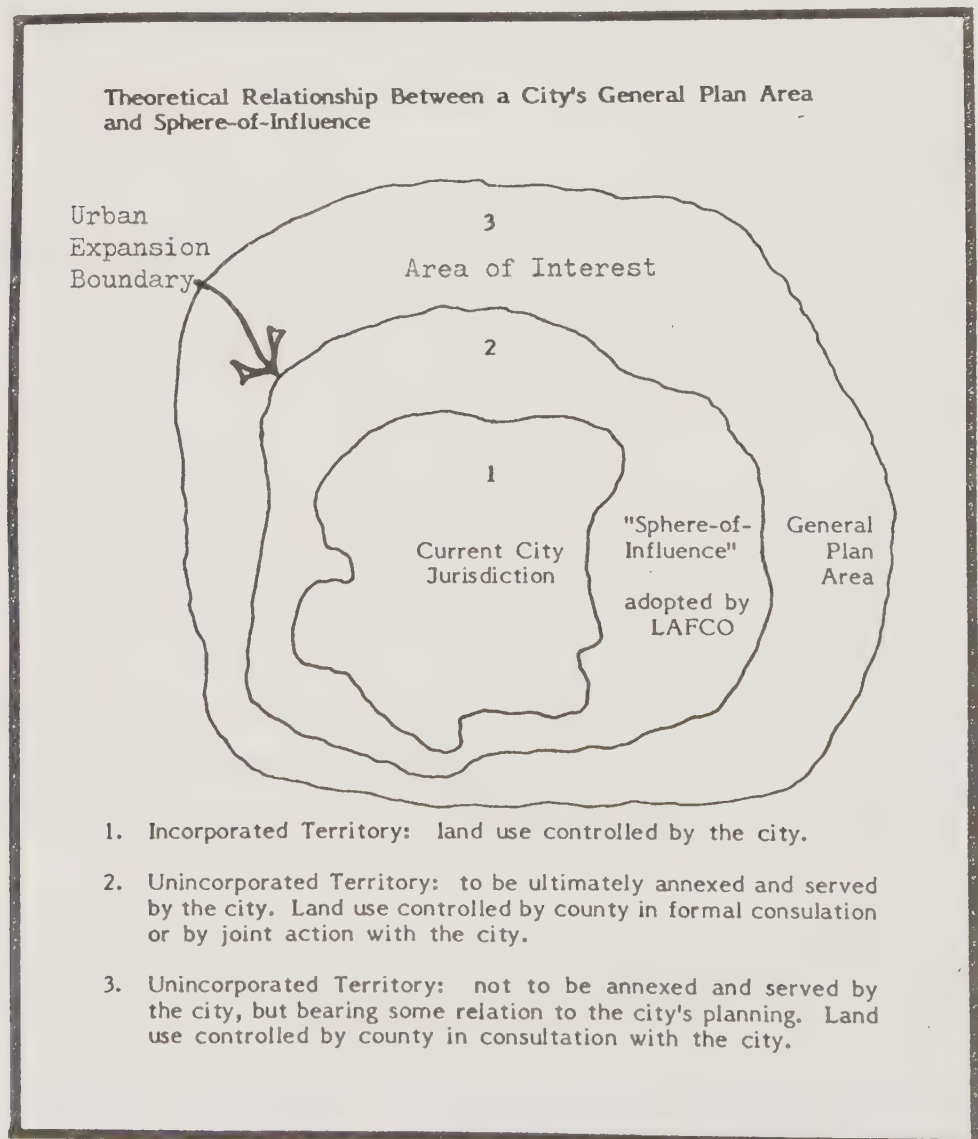
### THE PLANNING AREA

The general plan covers not only all territory within the boundaries of the adopting city or county, but also takes into account any area outside the city's or county's boundaries which, in the planning agency's judgement, "bears relation to its planning" (Government Code Section 65300).

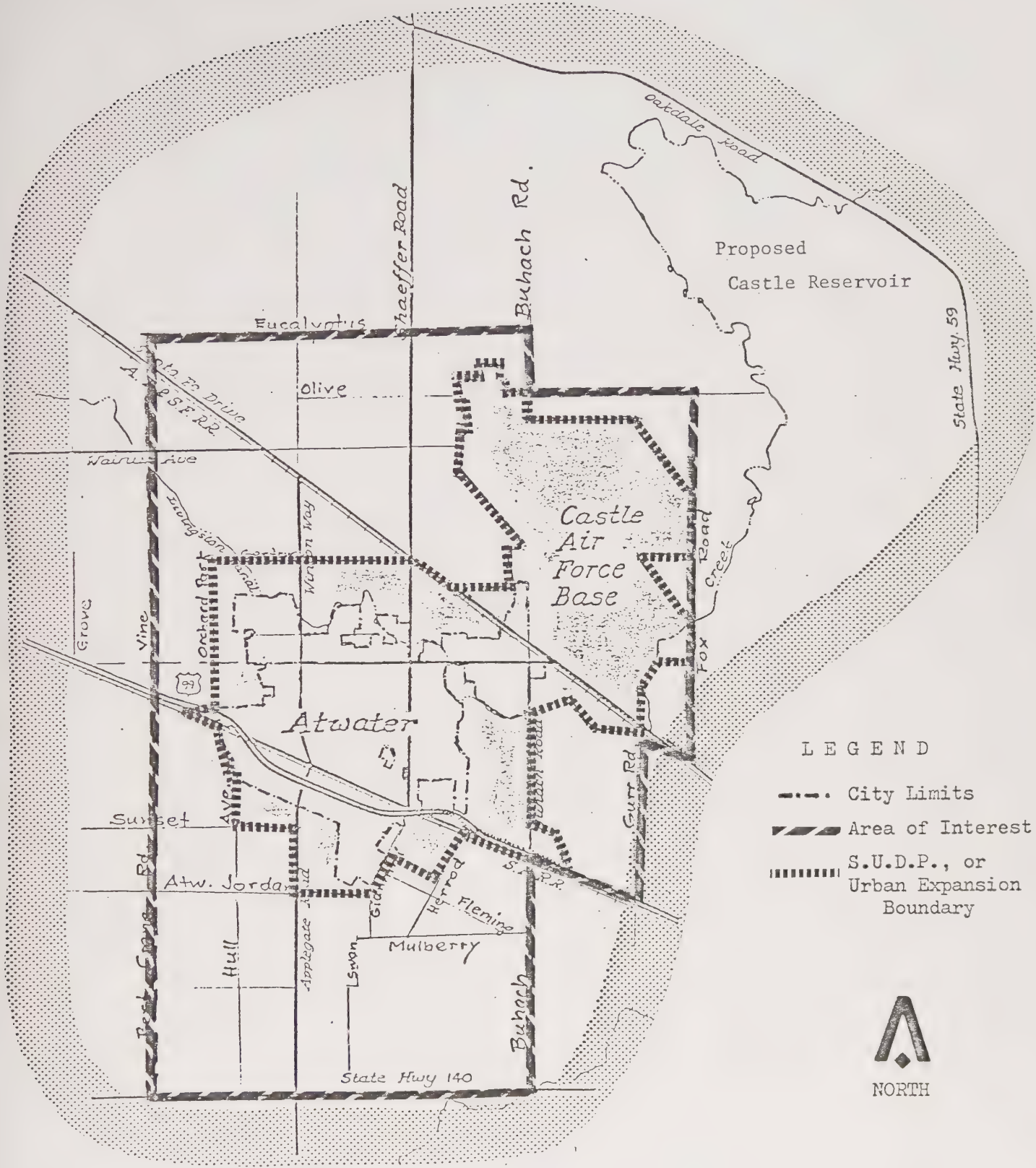
Effective planning does not stop at political boundaries; accordingly, the law provides for extraterritorial planning. Extraterritorial planning is a means by which a local government can formally indicate to its neighbors its interest in the future of the lands under its neighbors' jurisdiction. Cooperative extraterritorial planning can be used to guide the orderly and efficient extension of facilities and services, influence the preservation of open space, agricultural lands, and resource conservation areas and establish consistent development standards in the plans of adjacent jurisdictions.

Cities also need to consider their official spheres-of-influence. The Local Agency Formation Commission (LAFCO) in each county adopts a sphere-of-influence for each incorporated city and for each special district. This sphere-of-influence is "a plan for the probable ultimate physical boundaries and service area of the local agency" (Government Code Section 54774). The LAFCO uses it in reviewing proposed annexations to cities, the formation or expansion of special districts, and other activities related to muni-

cial boundaries. In determining the sphere-of-influence, LAFCO must consider at least eight factors: maximum possible service area; range of existing and possible services; projected future population; level and type of projected development; present and future service needs; agencies providing services, social and economic interdependence; and, agricultural preserves (Government Code Section 5477 (a)-(h)). Generally, the planning area for the general plan should extend at least as far as the adopted sphere-of-influence and in rural areas probably beyond, as the chart illustrates.







# ATWATER PLANNING AREA





**ISSUES**



ISSUES

The following pages are a compilation of planning issues. All those issues identified as relevant to the Atwater area in the nine separate General Plan Elements have been included. They are kept brief, and detailed information can be found in the separate Elements. Issues not relevant to our community have been analyzed in the Elements - as required by law - but are not covered in this General Plan.

The Issues are listed in the following order:

- I.     ENVIRONMENTAL ISSUES
  - A.    CONSERVATION AND OPEN SPACE ELEMENTS.....C-1
    - 1.    Agricultural Land
    - 2.    Energy
    - 3.    Water Resources
    - 4.    Historic Preservation
    - 5.    Parks & Recreation
  - B.    SCENIC CORRIDOR ELEMENT.....C-41

- II.    HAZARDS
  - A.    SAFETY ELEMENT.....D-2
    - 1.    Air Pollution
    - 2.    Water Pollution
    - 3.    Chemical Spills
    - 4.    Toxic Waste
    - 5.    Wind Erosion
    - 6.    Nuclear Fallout
  - B.    SEISMIC SAFETY ELEMENT.....D-27
    - 1.    Subsidence
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III.     SOCIAL AND ECONOMIC ISSUES.....E-1

IV.     INFRA-STRUCTURE

A.   CIRCULATION ELEMENT.....F-1

1.   Circulation
2.   Fire Safety
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V.     DEVELOPMENT

A.   LAND USE AND HOUSING ELEMENT.....G-1

- Land Use
- Housing Element
- Commercial
- Industrial
- Infill
- Urban Expansion
- Primary Growth Area



**ENVIRONMENT**



## A. OPEN SPACE AND CONSERVATION

The Constitution of the State of California declares "that it is in the best interest of the State to maintain, preserve and otherwise continue in existence open space lands for the production of food and fiber and to assure the use and enjoyment of natural resources and scenic beauty for the economic and social well-being of the state and its citizens".

The State Legislature has found "that the rapid growth and spread of urban development is encroaching upon, or eliminating, many open areas and spaces of varied size and character, including many having significant scenic or aesthetic values, which areas and spaces, if preserved and maintained in their present open state, would constitute important physical, social, aesthetic or economic assets to existing or impending urban and metropolitan development."

The State Legislature has also declared that:

- (a) The preservation of open-space land is necessary not only to maintain the state's economy, but also to assure the continued availability of land to produce food and fiber, for enjoyment of scenic beauty, for recreation and for the use of natural resources.
- (b) It is in the public interest and beneficial to urban dwellers to discourage premature and unnecessary conversion of open-space land to urban uses in order to discourage non-contiguous development patterns which unnecessarily increase the costs of community services to community residents.
- (c) The anticipated increase in California's population demands that cities, counties, and the State make definite plans for the preservation of valuable open-space land and take positive action to carry out such plans by adopting and strictly administering state-authorized laws, ordinances, rules and regulations or by other appropriate methods.
- (d) In order to assure that the people's interests are met in the orderly growth and development of California and the preservation and conservation of its resources, it is necessary to provide for the development by the state, regional agencies, counties and cities of statewide



coordinated plans for the conservation and preservation of open-space lands.

- (e) State laws on open-space are necessary for the promotion of the general welfare and for the protection of the public interest in open-space land.

To assure that open-space land will be preserved, state law requires every city and county by December 31, 1973, to prepare and adopt a local open-space plan "for the comprehensive and long-range preservation and conservation of open-space land within its jurisdiction. Every open-space plan must contain an action program of specific programs which the local legislative body intends to pursue in implementing its open-space plan. Every city and county by December 31, 1973, also must adopt an open-space zoning ordinance "consistent" with its open-space plan."

#### Definitions

- 1. Open-Space Element. A plan for the comprehensive and long-range preservation and conservation of open-space land, including an action program of specific programs which the local legislative body intends to pursue in implementing its open-space plan. (Govt. Code Sec. 65563)

Open-Space. Any parcel of land or water which is essentially unimproved and devoted to an open-space use as defined in this section and which is designated on a local, regional or state open-space plan as any of the following:

- a. Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lakeshores, banks of rivers and streams, and watershed lands.
- b. Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams which are important for the management

of commercial fisheries; and areas containing major mineral deposits, including those in short supply.

- c. Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreational purposes, including access to lake-shores, beaches, rivers, and streams.
- d. Open space for public health and safety, including but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality. (Govt. Code Sec. 65302)

2. Conservation Element. A plan for the conservation, development and use of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals and other natural resources. The element may also cover: reclamation of land and waters; flood control; prevention and control of the pollution of streams and other waters; regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan; prevention, control, and correction of the erosion of soils, beaches, and shores; protection of watersheds; and the location, quantity and quality of rock, sand and gravel resources. (Sec. 65302(a), Govt. Code)

Assumptions of the Open Space/Conservation Element of the City of Atwater

- 1. Population and economic activity will continue to increase in the city.
- 2. Future population growth with increased demands will result in greater pressures for utilization of natural resources and land.
- 3. There is a finite amount of natural resources present within the planning area of the city.
- 4. Agriculture and agriculturally dependent industries will continue to play a major role in the economy of the county.
- 5. Community awareness of environmental values will increase and put increasing pressures on government to respond.

6. The state will increasingly regulate natural resources.
7. Conservation of natural resources is necessary and valuable.
8. Historical sites and landmarks of significance are important to future generations and should be conserved.

#### Conservation

We have not yet quite accepted the reality of limited supplies of water; the truth about energy limits was becoming harder and harder to avoid. Most Californians are realizing that the era of the bottomless oil well has truly ended. The nation is in the midst of taking a new look at nuclear power, and Hal Rubin's article on the costs and hazards of decommissioning suggests that the closer we look, the less attractive that particular option will appear. Coal, this year's panacea, also has its problems. It appears that, wherever we turn, energy will not come cheap or easy. Each day's news makes the conservation alternative more attractive.

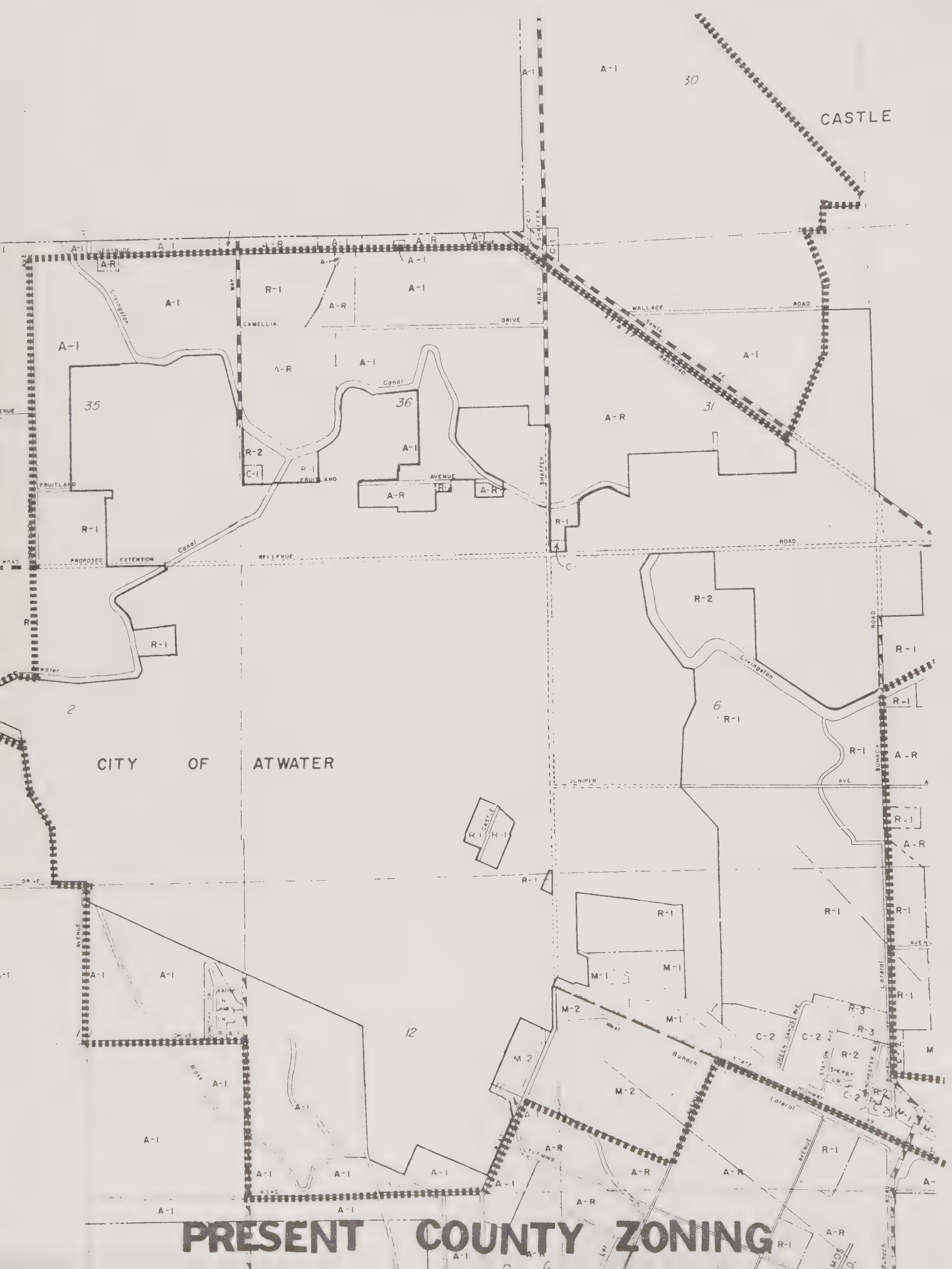
The passage of Proposition 13--still another landmark of the 1970's--was interpreted as the beginning of an age of lean and frugal management of our public affairs; government officials were supposed to "get the message" that we want things run more economically. It seems reasonable that, if we mean business about this, we should be paying attention to getting the most from our resources. Conservation, in a word. We have scarcely begun to scratch the surface of the possibilities of conserving energy and water. If we are to move into conservation seriously, it will, of course, mean that we will have to change not only public policies, but also personal lifestyles, and not only send the message, but get it.

## 1. AGRICULTURAL LAND

While the population in California and the United States has been expanding, and will continue to do so for at least the next 20 years, the extent of the prime food producing areas of California is decreasing. "Population Growth", according to the University of California Agricultural Extension, "has had and will continue to have tremendous impact upon California's agriculture. Much prime agricultural land has been lost to provide space for people, and more will be - approximately 65,000 acres per year. At this average rate, the urban population will require 4.8 million acres in 1980." According to the CALIFORNIA TOMORROW PLAN, California once had 8.7 million acres of prime agricultural land. Over three million acres of this land have already been urbanized, making a total loss of about one third of our best agricultural land. The demand for new housing, industry, and stores to service the needs of our growing population has resulted in the loss of this land. While prime agricultural land (high fertility, good drainage, low erodibility, etc.) is ideal for farming, it is also much sought after for urban development. Because of its innate characteristics, development on prime agricultural land can be accomplished while minimizing development costs and maximizing profits, often at the general public's expense. The conversion of land from agricultural to urban uses is a gradual, prolonged process, which erodes our prime agricultural land piece by piece. The loss of this land also represents a loss of valuable open space, and the possible destruction of wildlife habitat. Furthermore, the more intensive use of what prime agricultural land remains could result in its destruction through over-use. As we continue to subdivide our best agricultural lands, we are gradually forced to increasingly cultivate more marginal soils, less fertile, and often in water deficient areas. Farming these soils may require heavy fertilization plus the added cost of water, which in some cases may have to be transported via canals, aqueducts, etc. The added costs of production are ultimately passed to the consumer.

A more rapid form of the process is the intrusion of residential subdivisions into agriculturally productive areas. This urban use is highly incompatible with normal farm operations like crop-dusting, blowing dust from cultivation, etc., and prevents the expansion of existing operations.







economic resource, this study advocates the preservation of prime agricultural land whenever possible.



The arrival of "ranchettes" is significant, marking the beginning of the end for serious agriculture in the region.

## 2. ENERGY CONSERVATION

There is little question that California has an energy problem. Most people agree that action at all levels of government is necessary to solve the problem. In the past, the focus has been on the federal and state levels. However, many activities of local government--such as zoning, subdivision and building regulation, code enforcement, public transit, road design, and the like--have significant effects on the use of energy. By managing these activities with an eye toward conservation and innovation, local governments can accomplish the two goals of providing necessary services efficiently and economically, while at the same time reducing energy consumption. Through the general plan, a community can adopt formal policies and implement measures to promote energy conservation and the use of renewable energy resources.

The California Energy Commission currently assumes that energy prices will generally rise between five and ten percent faster than inflation. Less conservative projections indicate that energy prices could climb even more rapidly. Against this, Californians now import over half of all their energy supplies. Petroleum flows from Alaska and Indonesia, natural gas from Texas and Canada, and electricity from Washington state and from the southwest. New domestic supplies, including geothermal and solar sources, add to the complicated supply picture. The most reliable figures on future energy use come from the California Public Utilities Commission and the California Energy Commission, as well as utilities.

In addition to the traditional sources of energy, a local government should direct its attention to assessing the potential of locally available energy resources, such as wind energy, solar power, and biomass conversion.

Evaluating the energy use patterns of a community is an important and appropriate role for local government. The following table, showing statewide consumption of petroleum, natural gas, and electricity, can serve as a general guide to energy use patterns in most communities. Non-renewable fossil fuels (petroleum and natural gas) directly supply 88% of our energy needs, including production of about one-half of our electricity (the other half derives from hydroelectric, nuclear, and geothermal electric generating plants). The chart



highlights the particular importance of local policies aimed at reducing petroleum use in transportation and at reducing the use of gas and electricity in residential and governmental buildings.

### Time for a Change

American building technologies and practices have developed under a natural blessing: abundant land on which to scatter our homes; abundant materials with which to build and rebuild almost at will; abundant energy to process, transport, fabricate, and demolish these materials; and yet more energy to heat, cool, light, and power our buildings at heretofore unattainable levels of comfort and dependability. This abundance has shaped the whole of our culture. Furthermore, the notion that this abundance is unlimited has given legitimacy to the unrestrained depletion of our natural resources: we move to the suburbs rather than maintain or improve existing urban environments; we build houses to last twenty years instead of two hundred; to condition our structures, we adjust a thermostat rather than open a window or pull a drape. And so disappear the land, the materials, and the energy.

It is now possible to detect a growing disillusionment in the United States with the shortsighted, self-interested technology of the past. We have only begun to feel the effects of the depletion of once-abundant resources, and to see and smell the aftermath of their misuse, but it has been enough to raise to consciousness the desirability of changing our technologies and attendant lifestyles: from the energy-intensive practices which created modern society, to the energy-conservative technology which will be needed, not only to repair the damage (where possible), but merely to maintain our viability.

The goal of alternative architecture is an end to resource depletion. But its successful adoption involves far more than facts and figures: A new relationship to our world is called for, characterized by both respect and reverence for the place we inhabit.

To reduce energy and material waste, we must design simpler, smaller structures that use less highly processed building materials, that reuse discarded materials, and that make more permanent use of both.

### Passive Energy Building Standards

On July 1, 1978, the California Administrative Code Title 24, part 6, article 1, went into effect. Title 24, when implemented by local governmental agencies, saves considerable amounts of energy in new residential construction compared to the average structures built prior to the adoption of this code. Title 24 standards include the following areas: glazing, shading, insulation, weather-stripping, faucet and showerhead flow rates, air conditioner equipment, space heating units, energy efficiency ratios of appliances, water heating units, and life-cycle costing. It would provide residents with well-insulated, draft-resistant, efficient, and inexpensive-to-operate dwelling units.

The building industry is slow to change, so although many local governments have implemented Title 24, many departments fail to enforce the code even though the energy efficiency of a home is increased considerably if Title 24 is followed.

Title 24 is not a passive solar energy building code, but it is an excellent first step. Having a tightly-sealed, well-insulated shell is the starting point in the design of a passive solar home. Reducing glazing on east, west, and north walls will cut heat loss. Shading of east, south, and west windows is necessary to prevent heat gain during the summer months. This can be accomplished with exterior shading, landscaping, or other shading devices. Windows should be movable to provide night-time ventilation in hot climates. South-facing glazing should be shaded in the summer but exposed to the winter sun during the cold months to absorb the sun's warmth. This can be accomplished with the appropriately designed overhang. To moderate internal temperature changes of a structure and to provide a medium for the absorption of winter solar heating, thermal mass should be built into the structure. Many materials can be used for thermal storage such as cement slab floors covered with ceramic tiles, water filled drums or columns, masonry, adobe, and rock beds.

For a passive solar home to function properly, orientation and lot siting are critical. Homes should be oriented with the long frontage facing south and located so that southern street trees and fences will not block winter solar access. Properly designed and sited passive homes can cut traditional heating and cooling costs up to 80 percent.

The Federal Department of Energy, which has been developing the Building Energy Performance Standards (BEPS), has recently announced August 1, 1981, as the final adoption date. The BEPS would apply to the entire United States, dividing it into seventy-eight different climatic regions.

From the perspective of local control, it is more desirable that energy-efficient, passive solar building standards be developed locally. This allows local jurisdictions to develop plans with local builders to design standards that are climate specific and locally acceptable. Not only will substantial energy savings be realized, but the community's knowledge of conservation will be improved.

Energy-Conserving Subdivision Design Standards The approval of subdivision maps, land-use zoning, and permitted and conditional uses of land are a matter of local control. Through these tools, a local government can affect the amount of energy people consume in their homes and to meet their transit needs.

The energy-efficient planned neighborhood should have the following characteristics: narrow tree-shaded residential streets oriented predominantly east and west, circulation systems that include meandering pedestrian and bicycle paths, higher density residential development lining major arterials, mixed-use zoning with residences above ground-floor commercial, businesses to provide services and jobs, schools and other public services, and open space for food crops and parks. A neighborhood of a two- or three-mile radius could contain the needed commercial, recreational, employment, and public services. In an ideal situation the neighborhoods' food production and energy production could be part of the integral whole.

#### Solar Access

Solar access is a local responsibility. The Solar Rights Act and the Solar Shade Control Act passed in 1978 and became effective on January 1, 1979. All City and County planning departments are required to see that tentative subdivision maps provide, to the extent possible, for future natural heating or cooling opportunities in the subdivision. Also, the Solar Rights Act allows local governments to adopt an ordinance requiring the dedication of easements for solar access as a condition of subdivision map approval.



The Solar Shade Control Act prohibits planting new trees or shrubs or the growth of existing landscaping that would cast a shadow over more than 10 percent of the absorption surface of another property's solar collector at any time between the hours of 10:00 AM and 2:00 PM. Existing trees from adjacent properties that cast a shadow on a new solar collector are exempt. Enforcement of this act is a local responsibility; however, a local jurisdiction may exempt itself from this law by a majority vote of the governing body.

There are many models and methods available to meet the intent of the Solar Rights Act. The adoption of solar envelope zoning, solar easements, site planning, and solar access guarantees within conditions, covenants, and restrictions are some of the possibilities.

#### Street Tree Programs

Aside from their aesthetic value, trees are nature's air conditioners and save energy naturally. In hot sunny climates or windy hollows, trees can moderate microclimate conditions. Deciduous trees should be considered part of passive solar design, providing cooling shade in the summer and allowing sunlight to penetrate during the winter. In windy locations, planting low-branching evergreens on the north and east sides of homes and buildings can reduce infiltration and the chill factor.

During the hot summer months tree-shaded attics can remain 20-40F cooler than unshaded attics. Moreover, shading streets and sidewalks reduces the heat that is radiated off streets and into the ambient air. Asphalt can reach 140 degrees on a 90-degree day because it is an excellent heat collector and it holds that heat long after the sun has set. Deciduous trees should be used to shade cement and asphalt surfaces during the summer to prevent excessive heat loads from building up within a neighborhood. Narrowing street widths in residential areas and providing tree-lined median strips for major arterials will allow adequate shading of the street. Large parking lots should also be shaded.

Trees and the cooling shadows they cast also create air circulation and cooling breezes in their immediate proximity, due to the temperature gradients around

the tree. However, care should be shown in the placement and choice of tree plantings so that the flow of normal summer cooling evening breezes is not impeded. Further, consideration of solar access rights should be given high priority.

Other aspects that should be considered in evaluating the trees on a permitted tree list are the rooting structure, the diameter of the trunk, susceptibility to disease, the amount and frequency of the tree droppings, and the drought resistance.

Trees are only one part of using vegetation to control microclimate. Consideration should be given to shrubs, vines, and ground covers as well. Working with nature to accomplish energy savings can lead to beautiful results that can be seen in cities such as Carmel, Redlands, Woodland, and Sacramento.

### Street Lighting

The same amount of light for half the price sounds like a good deal, and it is.

Prior to 1960, Pacific Gas and Electric owned and operated about 100,000 incandescent street lights. By 1970 the utility had phased out the incandescent lights and replaced them with mercury vapor lamps that produced twice the light for the same price. Mercury vapor lights became the standard for new construction, and by 1970 the company owned 195,000 mercury lights.

As the energy efficiency of lamps improved, and as the cost of electricity increased, another advance in night lighting was developed. Extensive studies of the high-pressure sodium vapor (HPSV) lamp indicated that a 200-watt HPSV provides the same amount of light as a 400-watt mercury vapor lamp. In other words, it is possible to produce the same amount of light for half the energy.

PG & E started its conversion program from the mercury vapor lamps to HPSV lamps in 1978. During the first year of conversion, over 38,000 mercury and incandescent lamps were converted to high-pressure sodium lamps.

The City of Oakland used funds provided by the Local Public Works Grant of 1977 to purchase 13,422 lights within the city limits from PG & E and contracted

with a firm to convert these and the 10,000 street lights the city already owned to high-pressure sodium lamps. The cost of the total program was \$4 million, including \$1 million to purchase PG & E lights, to change all luminaires (the fixtures that hold the lamps), and to replace the lamps. The conversion took place from January 1978 through October 1978. After conversion, electrical consumption from the City's street lighting program, which represented 50 percent of the City's electrical bill, decreased from 30 million kwh to 13 million kwh. The first year savings in electrical costs due to the conversion program was \$1.5 million. Present annual savings are \$1.8 million, making the payback period for the program approximately three years.

As the Oakland example and the experience of the PG & E conversion program indicate, the switch is cost-effective and saves about 50 percent of the energy required for night lighting. The program is more cost-effective the more quickly it is implemented; however, most jurisdictions are phasing in the conversion program using present staff to do the work.

PG & E plans to complete its conversion program by 1982, converting its 250,000 lights to HPSV lamps. The annual electricity saved will amount to 130 million kwh or the equivalent of 190,000 barrels of oil.

#### Fleet Size Reduction

The operation and management of State, County, and municipal government motor vehicles present major opportunities for energy conservation. Energy conservation measures in fleet vehicle operations require that consideration be given to the varying needs and uses of the departments operating the vehicles. The population density, topography, and climate must be considered in any effort to conserve energy because these factors will have an impact on the amount and type of driving needed to service the community.

An inventory that matches the existing fleet with its most efficient uses requires departmental planning. Some considerations are: planning trips for maximum vehicle use; combining errands whenever possible; and using lightweight vehicles for inspection trips and errands.

Maintenance is also an integral part of energy conservation programs. Tire

pressure, spark plugs, lubricating oil viscosity, points and timing, air pollution equipment, carburetor, choke and throttle, filters, wheel alignment, belts, radiator, and the exhaust system should all receive regular maintenance. Maintenance records can assist in maintaining maximum efficiency, in anticipating problems, and in deciding on vehicle replacement.

A reduction of vehicle weight and switching to compact cars increases fuel economy. Radial tires can result in a 30 percent increase in fuel economy. Eliminating air conditioning can save as much as 20 percent on gas mileage in urban traffic. Reducing the amount of acceleration and idling in driving can also increase gas mileage significantly.

#### Vanpool and Carpool Programs

Ridesharing, vanpools, carpools, park-and-ride lots and parking incentives are a few of the new terms that are in common usage today as alternatives to private auto use become more widespread.

There are many advantages to ridesharing. It conserves petroleum, reduces traffic congestion, improves air quality, and provides an economical way to commute.

#### California Certified Farmers' Markets

Farmers who haul their produce to markets and sell directly to the public are participating in farmer-to-consumer or certified farmers' markets. These markets, dormant in American communities for decades, have begun a resurgence in the last ten years. After reaching their peak in the nineteenth century, farmers' markets steadily declined with the growth of cities and suburbs, improved food transportation, and increased popularity of chain stores. California had only one public farmers' market ten years ago. Since then community markets have been reappearing and approximately thirty have been established in California between 1974 and 1979.

For many years government regulations presented obstacles to operating farmers' markets. In 1977, the California Department of Food and Agriculture passed regulations permitting the establishment of certified farmers' markets, easing the standardization requirements for direct marketing



growers, and ensuring that the seller was actually the grower or a relative or employee of the grower. In 1979, certification regulations were changed permitting one grower to sell for two others. This enabled small farmers to consolidate loads and save transportation costs.

Forty certified farmers' markets are operating today in California. Some, like the Pasadena market in a park and the Long Beach market in a church parking lot, opened last summer and are held one day during the week. Others, like the West Oakland and Modesto markets, are in their second year. West Oakland's market opens only on Saturdays, on the parking lot of the cooperative store downtown, and the Modesto market operates Wednesday evenings and Saturday mornings.

The Stockton market, located under the freeway, just celebrated its first anniversary with forty growers, several thousand people, music, dancing, and ethnic foods. The San Francisco market is open daily. Another market is scheduled to open in downtown Los Angeles at the end of August.

Consumers benefit by shopping at farmers' markets because of the freshness of produce and price savings. Shoppers select fresh food that is generally priced one-third lower than at supermarkets. Their satisfaction in turn benefits farmers. Increasing consumer awareness of the quality of fresh fruits and vegetables increases the demand for them. The existence of community markets provides outlets for small farmers and has encouraged some growers to expand their operations.

High food prices result in part from the hundreds of thousands of miles fruits and vegetables must travel, and the numerous times they must be loaded and unloaded before they reach supermarket shelves. Therefore, direct sales by neighboring producers cut costs. The gap narrows between what the farmer receives and what the consumer pays for food.

City and county people come together at farmers' markets for their mutual benefit. Farmers' markets, in turn, can revitalize downtown areas and protect farming land around cities. They have typically been held on parking lots and vacant land, and they bring customers into the area who need to buy products in addition to produce. Farmers' markets help to preserve mutual respect of



subcultures by creating in city people favorable attitudes toward local producers. These attitudes may later help preserve agricultural land.

City councils, aware of the benefits to both consumers and farmers, are becoming increasingly cooperative and lending assistance in the establishment of farmer's markets. The Direct Marketing Program at the State Department of Food and Agriculture employs twelve staff people statewide. They are available to help local communities establish certified farmers' markets.

### Bicycle Transportation System

When the State Office of Appropriate Technology instituted its State bicycle program in 1977, many people snickered. Since then, however, bicycles have become widely used in Sacramento, and the Department of General Services has made the program a permanent part of its operations. Travel by bicycle is the most efficient means of transportation and can save significant amounts of energy; it can be more convenient than driving; it provides the health benefit of daily exercise; and it reduces noise and air pollution.

### Energy Elements

An energy element is a statement of overall energy policy and strategies to implement the policy; it is an optional element that may be incorporated within the General Plan.

The concept of drafting and eventually adopting an energy element as part of the General Plan has considerable merit. Using citizens to help formulate the element can bring about greater public awareness while encouraging consensus within the community. Citizen participation is the necessary ingredient in developing an energy element acceptable to the majority of the community.

### Community Gardens

According to the most recent National Gardening Survey conducted by the Gallup Poll, this year two million more American households than last year are growing some of their own food. The survey showed that 33 million or 42 percent of American households are growing some of their own food. Gardening is more popular than fishing, golf, tennis, jogging, photography, and vacation trips.

People have also been gardening in community plots. In 1979, just under two million people participated in community gardens. Particularly popular in metropolitan areas, community gardens are also flourishing in smaller cities and rural counties.

Starting a community garden is mostly a matter of coordinating resources. Water hook-ups, liability insurance, and fencing cost money. Everything else can be begged, borrowed, or donated. City governments have provided resources such as land, soil amendments, and sometimes fencing. Other community gardens have given seedlings and transplants. Seed companies have donated seeds. The California Conservation Corps have given free labor. And gardeners themselves bring tools, know-how, and a love of gardening.

In addition to the food a community garden produces, it can transform a littered, vacant lot into a lovely, productive plot, build neighborhoods, and provide pleasure for gardeners, their families, and passersby. As inflation shrinks family incomes and energy-expensive leisure activities become less attractive, people are returning to gardening.

#### Methane From Wastewater

Producing methane gas from sewage is done by settling and collecting the sludge from wastewater and pumping it into airtight, heated (35° Celsius) vessels. There the sludge is treated and stabilized by decomposing the organic matter with bacteria that thrive in the warm, oxygen-free environment. A by-product of this decomposition is biogas consisting of about 60 percent methane and 40 percent carbon dioxide; it has about 60 percent of the energy content of natural gas, which is principally methane. For this process, municipal sewage treatment plants must have costly, complex equipment to process the waste into a slurry that can be pumped into the large digester tanks. The resulting methane gas is not frequently being used for commercial application; the majority is used on-site to heat sludge and for other operations associated with wastewater treatment.

The City of Modesto is converting part of its sewage into methane to power five test vehicles. Hydrogen sulfide and carbon dioxide are removed from the 60 percent digester gas to produce a 99 percent pure methane gas. Five test

vehicles, ranging from 4 to 8 cylinders, have been converted to use the methane. The study has been underway since 1977 and is being carried out in conjunction with Dual Fuels, Inc., of Culver City and Pacific Lighting of Modesto. The test currently uses 3,500 cubic feet per day of digester gas, and City officials figure that the City could produce upwards of 300,000 cubic feet per day from the sewage of 100,000 population.

### Recycling

Ten years ago the word "recycle" was not in the standard college dictionary. It is now. Recycling represents one of the most successful new activities to emerge from the environmental movement of the 1970s. It is successful because recycling is practiced by millions of people who are helping divert and reuse thousands of tons of resources--paper, cans, and other resources from the waste stream. Recycling can represent millions of dollars of new economic activity in our cities and towns.

### Aquaculture Wastewater Treatment

The costs of conventional wastewater treatment facilities continue to rise, forcing more communities to investigate alternative wastewater treatment technologies. Additionally, the energy consumed in conventional facilities to operate pumps, filters, and aerators will mean more costly operation and maintenance budgets. To avoid these costs, some communities are building treatment facilities that use biological systems to clean up wastewater rather than using mechanical and chemical systems.

Hercules, a town of 6,500 near San Francisco, started up its aquaculture facility in February 1980. Following primary treatment the wastewater is transferred to Solar Aquacells, enclosed greenhouse ponds, where a host of microorganisms such as bacteria and microinvertebrates, and plants such as water hyacinths thrive in the nutrient-rich wastewater. The various organisms break down organic pollutants, rendering the wastewater more suitable for reclamation. The hyacinths remove the nitrogen and phosphorus-containing nutrients along with heavy metals if they are present.

The hyacinths grow profusely and can be removed and used to generate methane. Sewage sludge, which is separated during primary treatment, also can be separated, dried, and used as a soil amendment for ornamentals and house plants.

### Life Cycle Costing

Life-cycle costing is becoming a standard procurement consideration. The days of considering only the least initial cost while ignoring operation and maintenance costs, are long gone. Product reliability and performance specifications have always played a role in purchasing equipment. Today, energy efficiency ratings and other energy costs are playing a roll as well.

The life expectancy of a roofing material and its insulating value are both taken into consideration. The performance and maintenance costs of fleet vehicles have to be weighed against EPA mileage ratings. The wattage of a street lamp, the energy efficiency rating of a pump, the cost of shade screens, and solar retrofits on community pools have taken on new importance as locally elected officials attempt to make responsible purchasing decisions.

One often-overlooked requirement to analyze life-cycle costs is found in Title 24 of the California Administrative Code, part 6, article 1, T20-1406 (3) (b). When an electrical water-heating system is being proposed for a structure, this provision requires a life-cycle cost analysis on the comparative costs for natural gas and solar heated domestic water systems. The regulation states that electric resistance water-heating systems shall not be used unless the life-cycle cost of equivalent natural gas and solar systems exceeds the life-cycle cost of the electric resistance system. The life-cycle cost analysis is described in the Residential Energy Conservation Manual. If this requirement were fulfilled, solar panels would be popping up on many more new roofs than they are now.

The degree of sophistication of a cost-benefit analysis can vary widely. For expenditures that have short payback periods a cost-benefit analysis is almost intuitive. For example, purchasing radial tires for fleet vehicles may cost 30 percent more than bias-ply tires, but if they last 40 percent longer, they cost less over the life of the investment. They will also increase the mileage rating of vehicles, which adds additional savings. Another example is the installation



of insulation; if it costs \$1,000 and saves \$250 a year, it has a short payback period.

For more costly energy conservation investments with long payback periods, a more in-depth study of the life-cycle costs may be necessary. Many factors must be considered, including annual fuel savings, projected fuel price increases, estimated lifetimes, annual operating costs, discount rate, and return on investment. In most cost-effectiveness studies the marginal energy costs, or the cost of supplying new energy, is used.

### Landscaping for Climate Improvement

In the Atwater climate trees are probably the best tool for moderating the hot summer temperatures. Trees provide better protection from the summer heat than many buildings. It is known that buildings are 20 or more degrees cooler in the shade of a tree than in the sun. Shading by trees can considerably reduce the cooling needs of a building and can greatly increase the comfort of people outdoors. If deciduous trees are used, the warmth of the winter sun will not be lost.

The importance of trees in improving summer conditions in cities is born out by extensive research done in Sacramento. "Looking at the energy balance..., one finds the net radiation (sun's heat) being used primarily to heat the air and City substrata. This is due to the general lack of moisture available for evaporation in the City. Few trees with little or no other vegetation characterize a heavily developed urban area, offering a very limited source of water vapor through evapotranspiration...Cement and asphalt tend to store heat during the day and to act as a source of heat during the later afternoon and night. Thus .... we are able to identify the cause of a well-known phenomenon, the urban heat island, and desert-like city climate". (Myrup et al, 1971). The reasearch further shows that during most of the day, in the summer, one is more comfortable in neighborhoods shaded by trees than in unshaded neighborhoods. However, there is slower cooling at night in shaded neighborhoods because the vegetation screens the cold night sky.

In terms of an overall strategy for energy conservation, trees make a substantial contribution; by moderating the extreme high temperatures they make it more possible for people to walk or ride bikes around town instead of driving

cars. They make the outdoors a more inviting alternative to indoor air conditioned spaces.

The Atwater Street Tree Plan, which is comprehensive in many respects, has specified relatively small trees with wide spacing for many streets. Trees such as crepe myrtle (*Lagerstroemia indica*) and other decorative trees will never get large enough to shade buildings and streets. The City's "street tree policy" requires only one tree per lot in residential neighborhoods; this means that trees are often spaced over 60 feet apart. With this wide spacing only the largest species will ever completely shade the street and sidewalk. An example of the proper use of trees is in Davis on College Park Avenue where the trees do a good job of shading the street. They are spaced 20-40 feet on center on a 33-foot wide street and planted in a parking strip. The trees are Chinese pistache and Sycamore. By way of comparison, Oak Avenue has the same species spaces 40-70 feet on center on a 50-foot wide streets with the trees 10 feet from the curb, thus the cross street spacing is 70 feet. The trees in this situation will probably never cover the street. This shows the impact of street width as well as tree size and spacing on the ability of trees to provide adequate shade. Existing streets with small trees and/or excessive spacing should be interplanted with a large species. Short lived trees can be used to advantage to provide quick shade as a part of a planned succession with longer lived, slower growing trees.

The central commercial area in Atwater is in desperate need of better tree shading. The tree most used there is the Italian Cypress which is not a shade tree. The planting of larger deciduous trees could reduce the area's summer temperature by at least 10°F, thus making shoppers happier and reducing air conditioning bills.

Another area for improvement is parking lots. Tree shading of parking lots would make them more pleasant for the user as well as reducing the detrimental impact of parking lots, both aesthetically and climatically.

Wherever there are landscaping requirements the City policy should be to encourage the planting of large deciduous trees where they will provide useful shade. Landscaping plantings are expensive to establish and maintain, in



addition they require space that could be used for other purposes. It is, therefore, important that the landscaped space function at its maximum potential.

### 3. WATER RESOURCES

#### a. Surface Water

Average annual precipitation in the San Joaquin Valley varies from about five inches on the valley floor to over 70 inches in the Sierra Nevada Range. The mean annual run-off ranges from about 40 inches at the higher altitudes in the Sierra Nevada to less than 1/2 inch in the valley. The streams draining areas of high altitudes in the Sierra Nevada have most of their run-off as snowmelt during spring and early summer, and almost 60 % of the run-off generally occurs during the months of April through June. The streams draining the Coast Ranges and the foothills of the Sierra have most of their run-off immediately following storms of winter and early spring, with the result that about 90 % of the run-off occurs in the months of December through April.

#### b. Groundwater

Groundwater quality follows the trend similar to that of surface waters. It is of good quality in higher valley areas, and of decreasing quality toward the valley trough.

Groundwater is stored in "aquifer", a water-bearing stratum of rock, sand, or gravel below ground. A single integrated aquifer system, referred to as the San Joaquin - Tulare Valley storage basin, underlies the central valley. All usable groundwater for the County of Merced occurs in the alluvium-filled San Joaquin Valley.

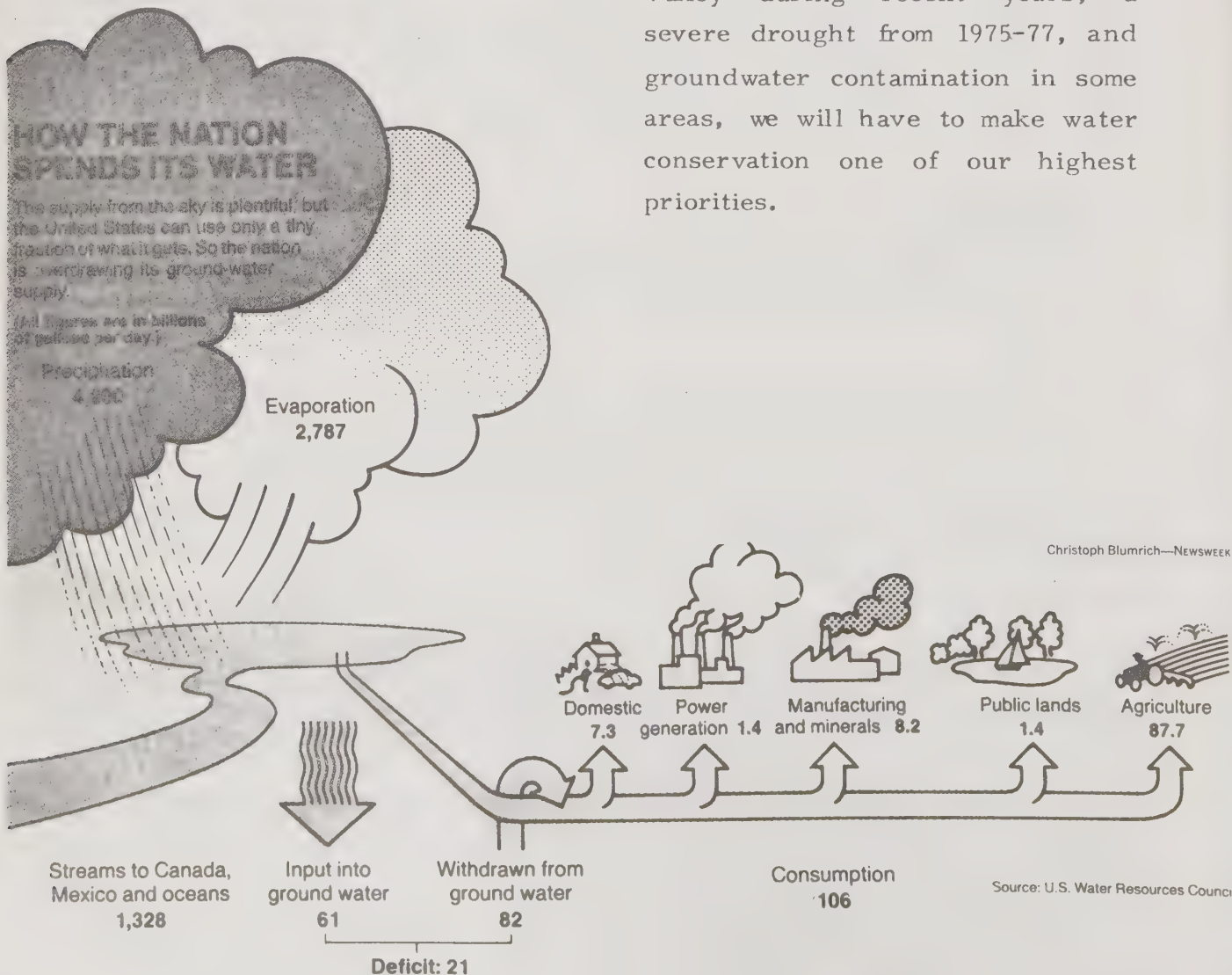
A bed of diatomaceous clay, generally known as the Corcoran clay, forms an impermeable body, which confines the lower groundwater zone in most of the valley. This clay divides the upper water-bearing zone from the lower zone, allows significant differences in water quality to develop, and prevents direct percolation of applied water to the lower water-bearing zone over most of the valley. Statistics for the County of Merced could not be obtained and all figures given are for the whole San Joaquin - Tulare ground basin, a total of 13,500 square miles: the water-bearing deposits are as much as 3,500 feet

thick. The maximum measured depth to water in the valley is 842 feet, the minimum measures depth 2 feet. Total storage capacity of the San Joaquin Valley at a depth of 200 feet below ground surface is 93,000,000 acre-feet, of which less than 80,000,000 acre-feet is considered usable. Low permeability in some areas is considered a limiting factor in utilization of the water.

The predominant water type varies with location in the aquifer, but calcium, magnesium, sodium bicarbonate, sulfate, and chloride are all present in significant quantities.

Groundwater yield for our region was estimated to be 1.75 million acre-feet per year about 6 years ago, when an annual overdraft of approximately 50,000 acre-feet existed. With a tremendous population growth in the San Joaquin

Valley during recent years, a severe drought from 1975-77, and groundwater contamination in some areas, we will have to make water conservation one of our highest priorities.





# THE WATER CRISIS: ITS CAUSES GO DEEPER THAN THE WEATHER

America's most immediate water problem started when a high-pressure ridge of air stalled over the West this winter, forcing moist Pacific winds to detour north over Canada. The resulting weather pattern has simultaneously parched the Northeast, the Southeast and large parts of the nation's midsection—but the best meteorologists don't know why. What's worse, rivers and lakes

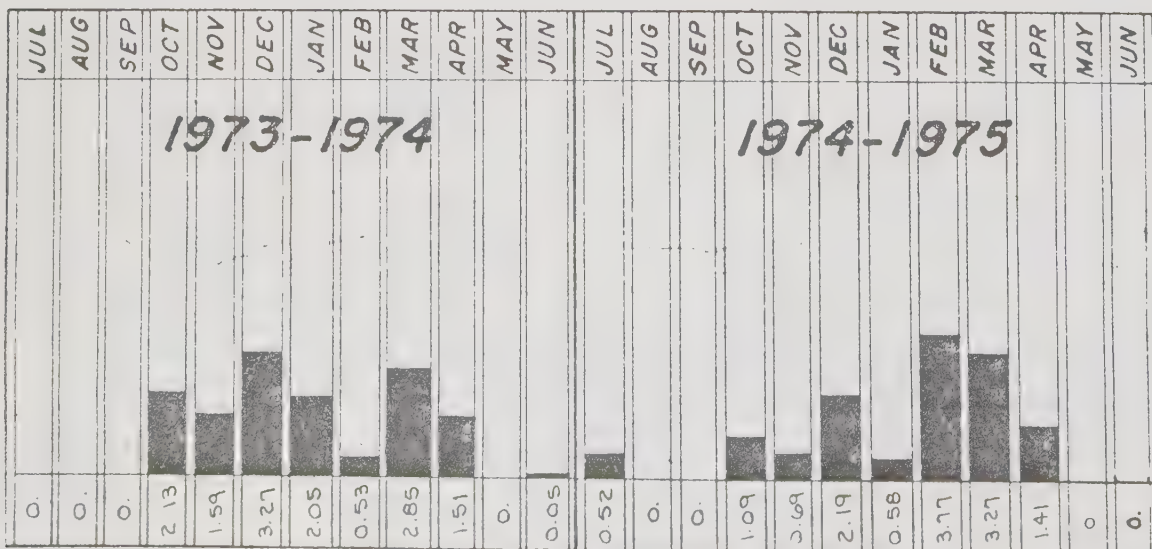
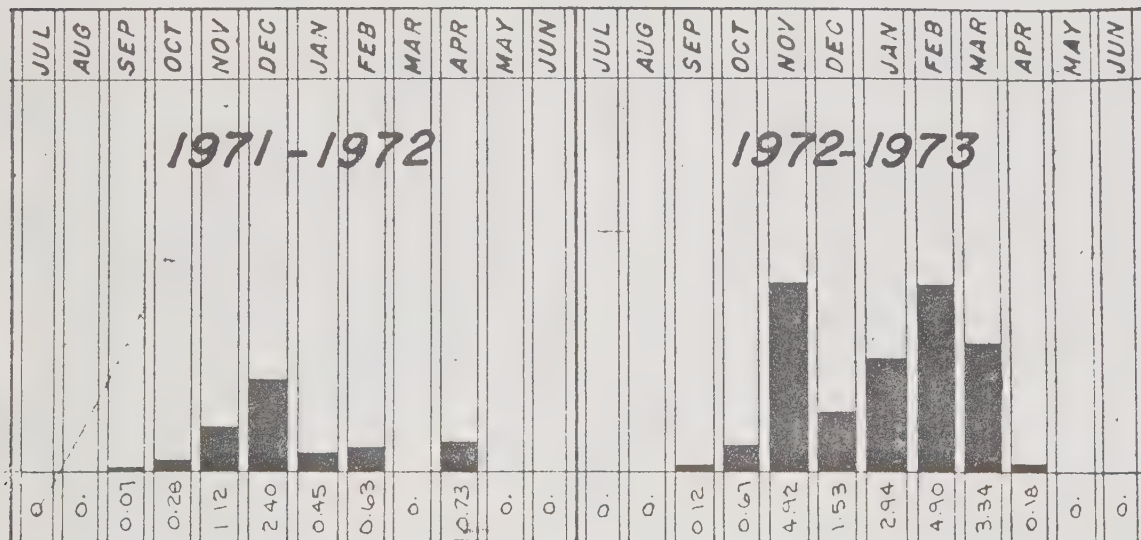
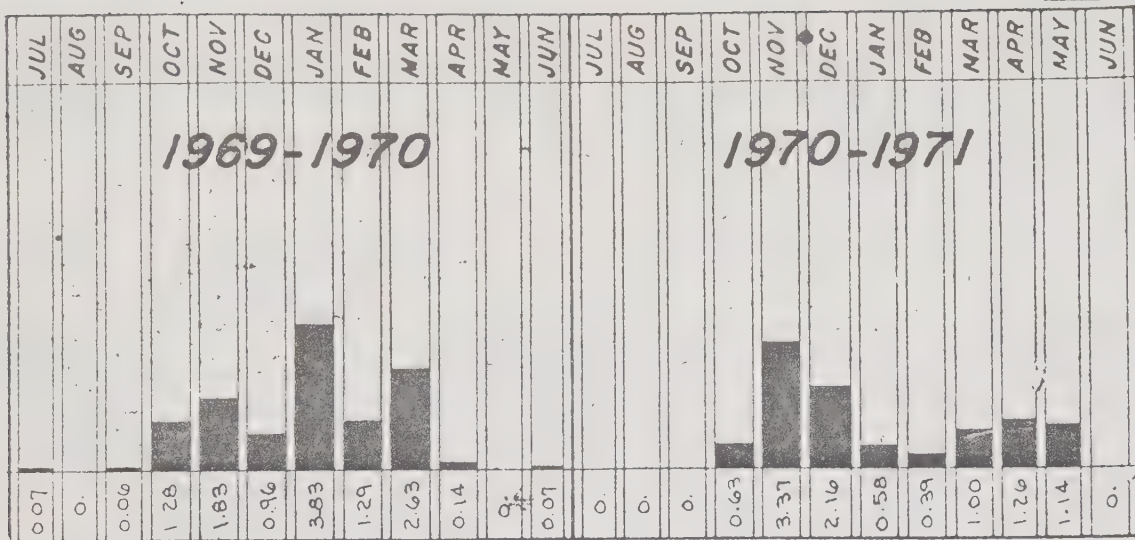
from Pittsburgh to Portland are polluted with acid rain, chemicals like PCB's and coliform bacteria from sewage. Below ground, water is being withdrawn from an ancient network of aquifers faster than it is flowing in. As fresh water moves out, salt water seeps in from oceans or underground salt deposits; aquifer water containing 3 per cent sea water may remain undrinkable for thousands of years.



Sources: U.S. Water Resources Council; NOAA/USDA Joint Agricultural Weather Facility

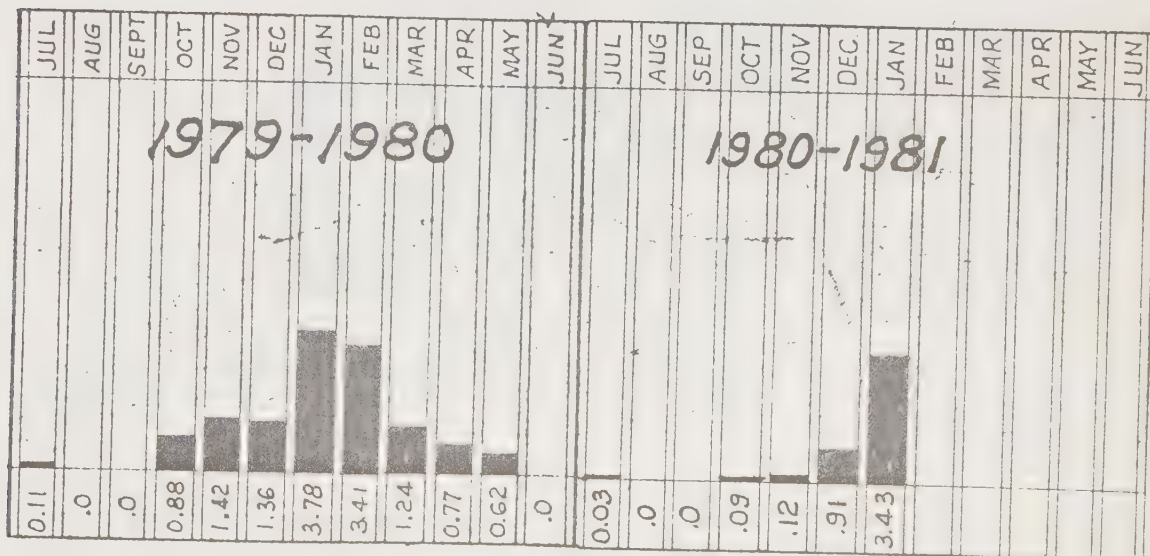
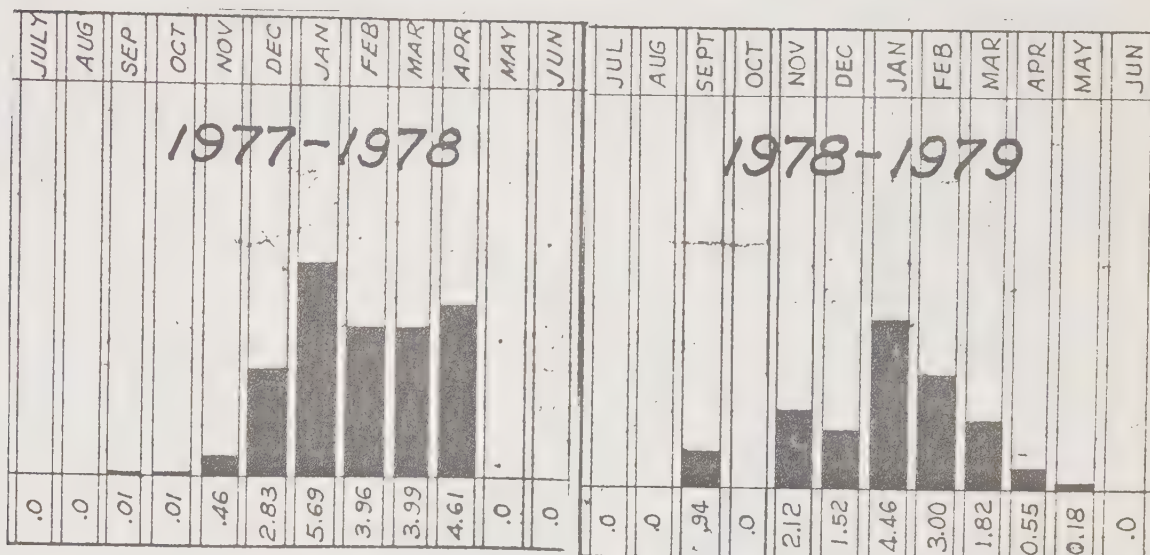
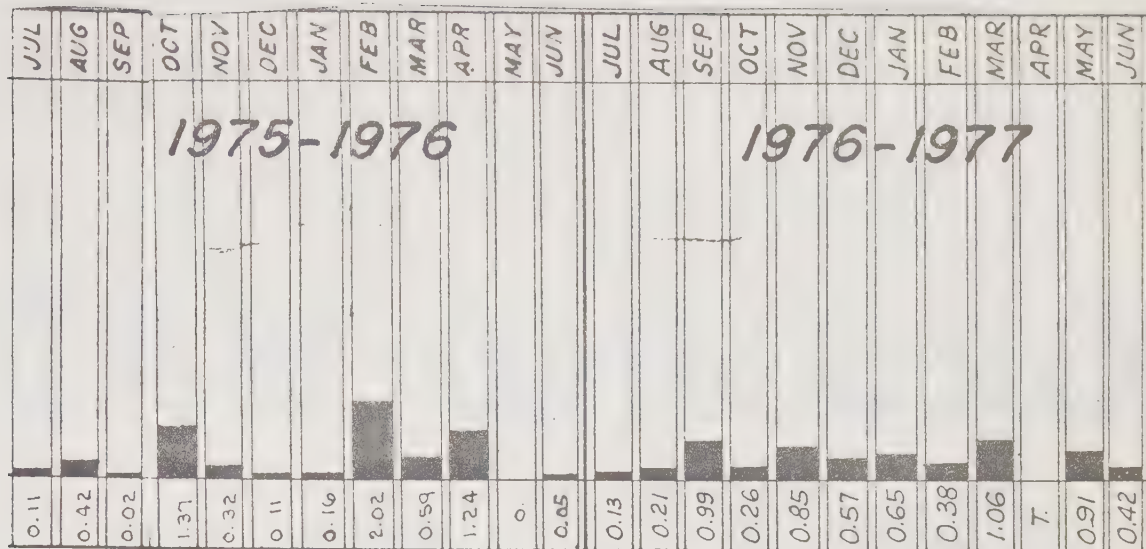
by Ohlsson—Newsweek

NEWSWEEK/FEBRUARY 23, 1981



Precipitation in Merced County



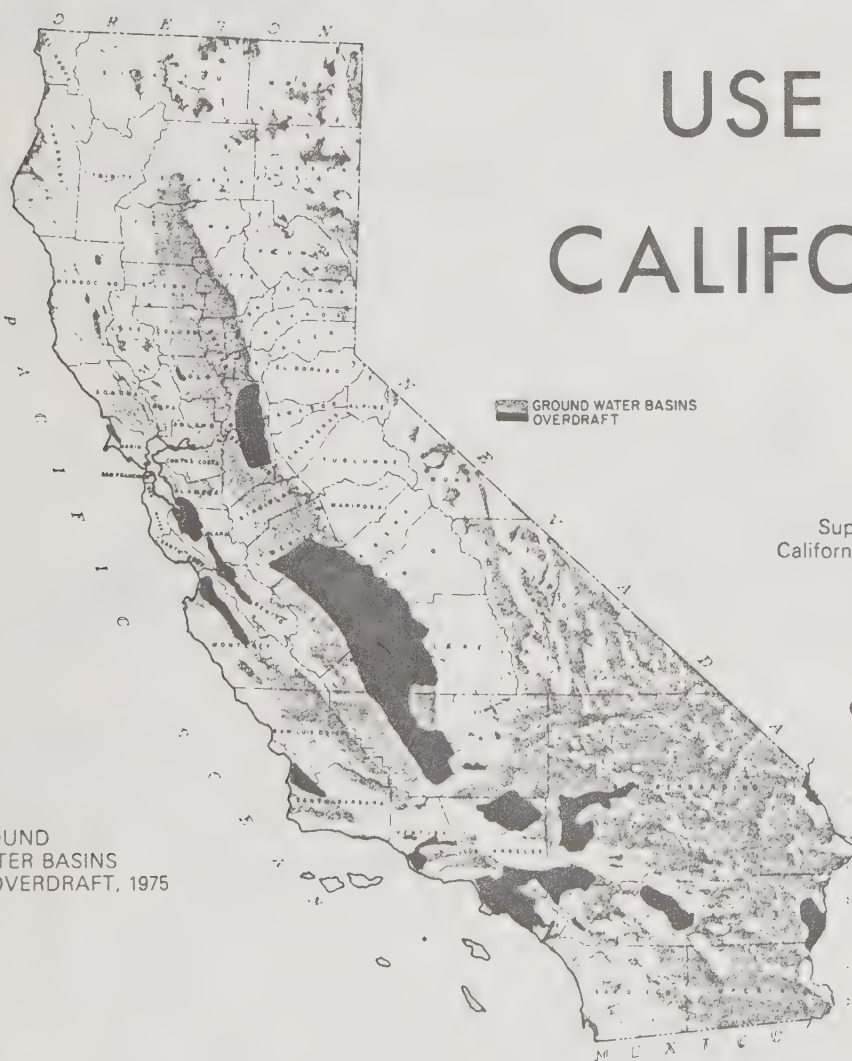


Precipitation in Merced County



# GROUND WATER

## USE IN CALIFORNIA



By  
ROBERT S. FORD  
Supervising Engineering Geologist  
California Department of Water Resources  
Sacramento, California

DWR PHOTOS  
California Geology November 1978

GROUND  
WATER BASINS  
IN OVERDRAFT, 1975

#### 4. HISTORIC PRESERVATION

Historic preservation is not a new concern to Americans. The early history of the movement, which predates the Civil War, is primarily a story of individual citizens and groups working to save sites and structures of special historic significance. The Federal Government established a major commitment to historic preservation with the Antiquities Act of 1906. This act authorized the President to designate nationally significant historic resources and authorized appropriate Cabinet members to grant permits for archeological work. Both provisions applied only to lands belonging to the United States. In 1935, Congress passed the Historic Sites Act, which declared it a national policy to preserve buildings, sites, and objects of national significance, regardless of ownership. The Department of the Interior assumed the major responsibility for implementing the directives of these two pieces of legislation, and initiated the Historic American Buildings Survey and the National Survey of Historic Sites and Buildings (Historic Sites Survey).

By the 1960's, the need for a more comprehensive Federal preservation program was apparent. While the demands of modern social, commercial and industrial development increasingly encroached upon the Nation's cultural resources, the preservation activities of the Federal Government were limited to the recognition and occasional acquisition of national landmarks, the collection of archival materials, and the supervision of certain archeological projects. In 1966, a Special Committee on Historic Preservation, under the auspices of the United States Conference of Mayors, recommended a coordinated national preservation program requiring a new concept of preservation--consideration of the cultural environment as a whole rather than its individual outstanding components.

Congress responded with passage of the 1966 National Historic Preservation Act. This act authorized the Secretary of the Interior to expand and maintain a National Register of districts, sites, buildings, structures, and objects significant to American history, architecture, archeology, and culture. Section 106 of

the act afforded limited protection for properties listed in the National Register by requiring that Federal agencies take them into consideration in the evaluation of federally funded projects. The act also inaugurated a funding program of matching grants to States for survey and planning activities and for acquisition and development projects related to National Register properties, and to the National Trust for Historic Preservation for preservation projects. Title II established the Advisory Council on Historic Preservation to review Federal actions related to preservation and advise the President and Congress on such matters.

To administer the historic preservation responsibilities of the Secretary of the Interior, the Department created the Office of Archeology and Historic Preservation (OAHP) within the National Park Service in 1967. OAHP consolidated the existing survey programs; related programs in archeology, architecture, and history; and the new programs required by the 1966 act. The Governor of each State was asked to appoint an official to work with OAHP. The responsibilities of the State Historic Preservation Officers include identifying historic resources of national, State and local significance in their jurisdictions.

#### The National Register of Historic Places

The National Register of Historic Places, administered by the Keeper of the Register, U.S. Department of the Interior, Washington, D.C. is the Nation's official list of cultural resources worthy of preservation. The Register is a catalog of American culture - the tangible remains of our heritage. It is also an authoritative guide for federal, state, and local governments, and for citizens groups interested in protecting and enhancing these irreplaceable elements of our cultural environment.

Properties eligible for the National Register include districts, sites, buildings, structures, and objects of local, state or national importance that are significant for their historical, architectural, archeological, or cultural values. They should retain integrity of location, design setting, materials, workmanship, feeling and association and:

1. Be associated with events that have made a significant contribution to the broad patterns of our history; or

2. Be associated with the lives of persons significant in our past; or
3. Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or
4. Have yielded, or be likely to yield, information important in prehistory or history.

Properties less than fifty years old ordinarily are not eligible for the Register unless they are of exceptional importance. There are, however, many exceptions within California. These include the 1939 Ford Building in San Diego, the 1931 Paramount Theatre in Oakland, the World War II Fort McArthur, several Frank Lloyd Wright buildings, and others.

#### Nomination to the National Register of Historic Places

The nomination process involves several steps. Anyone may submit an application to the National Register by completing the proper forms available from the State Office of Historic Preservation. After review, this office presents completed applications to the State Historical Resources Commission, with a staff evaluation based on the federal criteria. The Commission considers the applications at a public hearing, restricting the evaluation to the historic, archeological, architectural and other cultural merit of the property.

Applications which are recommended by the Commission are sent to the State Historical Preservation Officer for his review and approval. The State Historic Preservation Officer makes the nomination to the National Register in Washington, D.C. All nominations are given close professional scrutiny by the Register staff prior to listing in the National Register of Historic Places.

#### The Benefits of Listing in the National Register

Properties listed in the National Register are eligible for a variety of benefits including grants, loans, tax relief, and legal protection. Some of the programs are specially intended for cultural significant properties, while others benefit them indirectly.



Listing in the National Register may not be necessary for some of these programs but the Register criteria of significance is considered a good framework for determining eligibility.

Grants for preservation purposes are available from several federal and state sources, and from numerous private foundations. An extensive list of funding sources for preservation is available from the Office of Historic Preservation.

Federal laws such as the National Historic Preservation Act and the National Environmental Policy Act, and state laws such as the California Environmental Quality Act provide protection for properties in or eligible for placement in the National Register.

The Historical Structures Building Code of California enables local building officials to permit alternatives to regular building code requirements in order to facilitate preservation of buildings listed in the National Register.

#### What are the Possible Disadvantages?

The disadvantages to listing a property in the National Register are actually the financial and legal protections that discourage unnecessary destruction or alteration of the historic resource.

The National Environmental Policy Act and the California Environmental Quality Act require that environmental impact documents be prepared for any project using federal funds or requiring a state license or permit when the project may have a significant adverse affect on the environment, including buildings of historic or aesthetic significance. This process insures that any proposed destruction or substantial alteration of most registered or eligible historic buildings is subject to public review and comment. Minor alterations are usually exempt from these legal requirements.

Unless the property owner wishes to destroy or seriously alter the property, there are no apparent disadvantages to placing a property on the National Register.





The STATE HISTORICAL RESOURCES COMMISSION, on May 8, 1981,  
voted unanimously to approve inclusion of Bloss Mansion in the  
NATIONAL REGISTER OF HISTORIC PLACES

### Conclusion

National Register properties are eligible for numerous financial benefits and receive protection from demolition through the review of project plans. Registration does not affect the development, use, maintenance, or sale of any property unless destruction or extensive adverse alteration is involved. The Office of Historic Preservation in Sacramento (916) 445-8006 encourages interested citizens to contact them for further information.

### Castle Air Museum

Located on Castle Air Force Base just north of the main gate, the Air Museum is inside Atwater City limits. Three World War II barracks have been remodeled and moved to the site, housing a gift shop, snack bar and a museum displaying numerous memorabilia and artifacts donated by people who are proud of this heritage project.

Fourteen historic aircraft were proposed to be moved to the museum site by June 20, 1981, the day of the grand opening. Some of the aircraft could not be flown and had to be assembled and rebuilt after arrival here -- and more are on the way.

The Air Museum Foundation, consisting of Atwater residents and military people, has received the official Air Force approval for this project and is working tirelessly to make it bigger and better.

The Castle Air Museum will eventually bring many tourists to the Atwater area, and the City will have to get prepared for this.

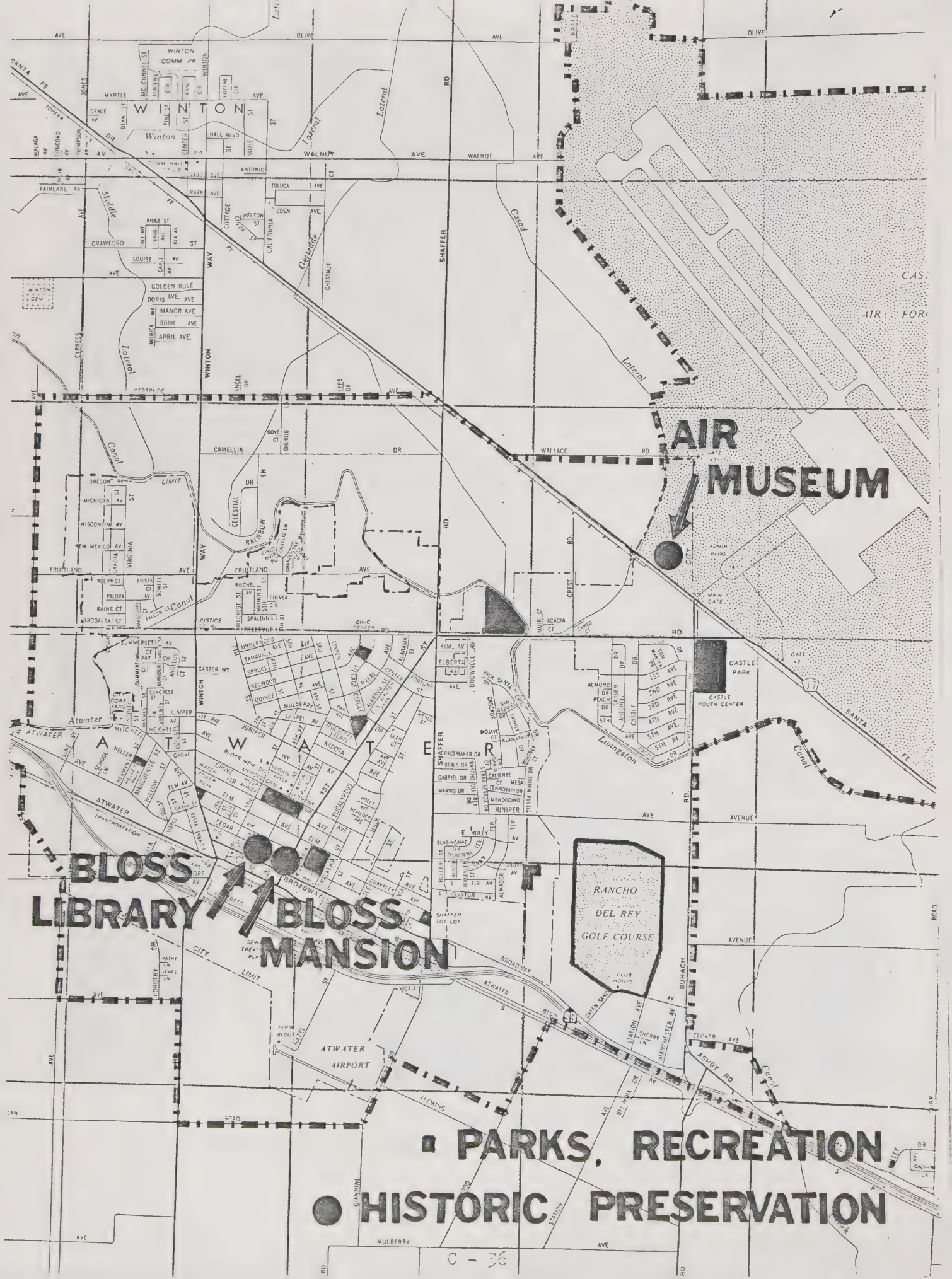




BLOSS MEMORIAL LIBRARY

Application for Listing in the National Register is being prepared





**AIR  
MUSEUM**

**BLOSS  
LIBRARY**

**BLOSS  
MANSION**

**■ PARKS, RECREATION**

**● HISTORIC PRESERVATION**

## 5. PARKS AND RECREATION

Americans today spend more hours than ever in recreational leisure activities. This rise in recreation demand is primarily the result of an expanding, affluent society. Today there are more Americans living in a smaller area, working fewer hours, but receiving higher incomes than ever. Recreation time plays an important part in the total development of an individual's life style today. The following report has been prepared to be used as a guide in charting future park growth and expansion.

Realizing the impossibility of totally forecasting the future, the Atwater Parks and Recreation Commission have to intelligently analyze areas of concern. In the next five to twenty years, future park sites should be considered in these areas for the enrichment of the citizens of Atwater.

Parks and Recreation planning is not static. Plans written to channel change and development are themselves stimuli for further change. Thus, this report is designed to be updated at least every five years, or sooner if needed.

Some of our most meaningful words, happiness, fulfillment, creativeness, satisfaction, self expression, companionship, health, and democracy are identified today with community recreation. It is toward these most significant ends and the aspects of the good life which they describe, that the objectives of the Atwater Parks and Recreation Department are aimed.

### Planning Considerations

Factors to consider when planning parks, recreation and open space programs and facilities:

- |               |                  |
|---------------|------------------|
| a. Population | d. Mobility      |
| b. Income     | e. Energy Crisis |
| c. Education  |                  |

- a. Population. Increase in population is the national trend that has the greatest impact on the local level. From 1970-1981 Atwater's City



- population went from 11,640 to 18,270. If the present trend continues, increased services and parks must be of a high priority.
- b. Income. National surveys reveal that as incomes increase, families have more money to spend for leisure time such as swimming, jogging, outdoor games, sports, and family activities.
  - c. Education. Generally, higher education and greater participation in recreation go hand in hand. The rate of participation in swimming and outdoor games is particularly affected by education.
  - d. Mobility. Mobility of people is a major factor influencing recreation participation. Combined with the high cost of gasoline, our local residents will probably drive more within the community than outside to seek much of their recreation, and/or, a greater reliance on bicycles will become more visible.
  - e. Energy Crisis. Programming will have to include all ages as more and more people tend to stay within their own communities to satisfy their leisure needs.

### Program Development and Support

#### Early Child Education

As the demand for educating our children early in life increases, it becomes apparent that the need for servicing young children in a pre-school setting will increase. Private industry probably will not meet this need, therefore, we can expect the community to look to us for increasing this service.

#### Cultural Arts

It is a sign of a forward-looking community when citizens demonstrate their appreciation for the values of learning and personal improvement through a cultural arts program. This program would conceivably include arts, theatre, history, dance, music and books. Consideration should be given to establishing a cultural arts facility in the proposed Community Center.

#### Youth Programs

To meet the challenge of providing activities for this age group, we propose to constantly be aware of their needs and implement ideas to satisfy these needs.

### Recreation Activities

Continue to provide for growth of existing programs and implement new programs and activities as community interest and needs dictate.

### Transportation System

Mobility throughout the community is a major problem of our senior citizens. It is important we continue our door to door service and consider service to medical and government agencies in Merced.

### Senior Recreation Activities

Because of the increasing number of active seniors and their need to be involved daily, recreational programs must reflect this need, with various social activities available, seven days a week, including evenings.

### Community Center

The City of Atwater should consider building a multi-purpose Community Center at one of the following sites:

1. City Hall Area;
2. Adjacent to the County Library on City-owned park land; or
3. The general area around Ralston Park.

The proposed Community Center facilities should contain, but not be limited to, a multi-purpose room, gymnasium, kitchen, a senior citizen lounge, crafts and game room, meeting rooms, and office space.

### Parks Acquisition and Development

As the City of Atwater continues to grow, it is imperative to add additional park acreage and to have a park system throughout the community. In some cases this would necessitate correcting some inadequacies in previous park planning. It is recommended that future park development be given consideration to those areas in which residential growth is taking place.

Desirable Park Standards - Dallas Survey

<u>Type</u>	<u>Acres per 1,000</u>	<u>Service Radius</u>	<u>Size</u>
Neighborhood	1 - 2	$\frac{1}{2}$ mi-1 miles	5 acres
Community	1 - 2	1-2 miles	15-25 acres
Regional	No standard	20-30 miles	100 or more

In areas that are adjacent next to schools, the Area Commission will try to purchase desirable area of land consisting of five acres. Area sites next to schools should also be approximately five acres in size.

It is recommended that future park sites be acquired in areas of new residential growth as it occurs, including the development of a community park serving several neighborhoods.

Open Space in New Developments

All multi-family residential, commercial and industrial zoning upon development shall have automatic irrigation systems for their proposed landscaping. Also, parking lots or spaces shall not count as a portion of the open space requirements.

In multi-family residential, commercial and industrial zoned land, upon development, a minimum of 15% shall be landscaped. The City of Atwater shall, if circumstances warrant, require more landscaped areas, particularly in multi-family development.

In multi-family residential, industrial, and commercial zones, upon development, parking lots shall contain landscaped areas with special emphasis on shade trees at the ratio of one 15-gallon tree from the approved tree list for every 4 parking spaces. All multi-family residential developments of 5 units or more shall include a private play area suitable for young people, approved by the Parks and Recreation Commission.

## B. SCENIC CORRIDORS

In 1971, the California Legislature amended the requirements for General Plans to include a Scenic Highway Element. Government Code Section 65302 (h) describes the requirement as follows:

"A Scenic Highway Element for the establishment, development, and protection of Scenic Highways pursuant to the provisions of Article 2.5 of Chapter 2 of Division 1 of the State Streets and Highways Code."

### Legislative Intent

"It is the intent of the Legislature in designing certain portions of the State Highway System as State Scenic Highways to establish the State's responsibility for the protection and enhancement of California's natural scenic beauty by identifying those portions of the State Highway System which, together with the adjacent scenic corridors, require special scenic conservation treatment. It is further declared to be the intent of the Legislature in designing such scenic highways to assign responsibility for the development of such scenic highways, and for the establishment and application of specific planning and design standards and procedures appropriate thereto and to indicate, in broad statement terms, the location and extent of routes and areas requiring continuing and careful coordination of planning design, construction, and regulation of land uses and development, by state and local agencies as appropriate, to protect the social and economic values provided by the state's scenic resources."

### 1. Atwater's Scenic Corridor Element

The Atwater City Council adopted the Scenic Route Element on September 22, 1975, to fulfill local community needs. The two topics of local importance in this Element are:

1. The protection of local streets and vistas that have scenic value;
2. The beautification of all major arterials and entrances to the City to eventually make them scenic corridors.



The area of major importance is the development of an "impression" of the City, and to capture a larger part of the tourist trade and regular commercial traffic using Highway 99. Particularly southbound traffic, which has not passed the intervening opportunities of the City of Merced.

The Scenic Corridor Element also stresses the importance that Atwater shall retain and enhance its "small town" character, and that landscaping is perhaps one of the most economical ways of improving an area, since it's contribution is so great in appearance, general character, and color. Atwater is well located for motels and other highway-oriented businesses, and offers an opportunity for the City to capture a share of the travel and vacation trade. However, the Element emphasizes, unless the area is developed as an attractive and convenient tourist community, it will have little chance of significant success.

Strict sign control, landscaping and tree planting should be enforced. Strict development controls and performance standards shall be applied to the whole community, including all the land visible from the freeway. Sign ordinance provisions shall include proposals controlling maximum illumination as well as size and placement of signs, and limiting freestanding signs to not more than eight feet in height. New zoning and architectural or design review provisions for development shall be adopted, and lastly, that "Atwater should present an image it wants to convey to all passers-by. The City should initiate a program to improve all entrances to Atwater, and areas seen from Highway 99." Two of the goals established by the General Plan Review Committee are stressing the importance of a renewal program for Atwater Boulevard west of Winton Way, and undergrounding of utilities.

#### Criteria for Corridor Selection

Certain areas are endowed with scenic characteristics, while others contain only isolated examples. Therefore, the following criteria, adopted from the standards developed by the State Scenic Highway Advisory Committee, has been established in designating local scenic drives.

#### Criteria

1. The scenic corridor through which the drive passes should have consistent scenic or aesthetic value during all seasons.

2. Routes of historic significance which connect places of interest and routes which draw attention to man-made aesthetics or the urban form should be considered even though they may have marginal scenic value.
3. If possible, the scenic corridor should contain a variety of vegetation or landscape types.
4. Routes which incorporate outstanding views or vistas should be considered.
5. If possible, major entry routes should be incorporated.
6. Major through streets should be utilized, whenever possible, so that a system of interconnecting drives or loops will result.
7. Corridors which have been or are scheduled for inclusion in underground utility districts should be considered.

#### Designation of Scenic Corridors

Based on the criteria, the following routes have been designated as Scenic Corridors:

1. The entire length of Atwater Boulevard, from City limit to City Limit. It is a major entry to the City from both points, and needed improvement in landscaping, trees, undergrounding of utilities, strict sign control and pleasing architectural design must be enforced in order to accomplish these objectives, and eventually establish this arterial as a Scenic Corridor.
2. Also adopted was First Street with its gradual upswing from Atwater Boulevard to the intersection of Shaffer and Bellevue Roads. Its historical significance and beauty compliment the criteria and goals of this Element.
3. City Hall and the only major shopping center in Atwater are located along Bellevue Road, which is designated to become a scenic corridor. Bellevue Road leads from Santa Fe Drive and Castle Air Force Base at the easterly city limit, to orchards in the west. Long range plans in the General Plan and Circulation Element are foreseeing a westerly extension to Highway 99 with a major interchange.
4. Shaffer Road starts at Atwater Boulevard, at a point where visitors leave the freeway and get their first impression of our community. Shaffer Road runs

north to the infamous five-corner intersection of two other scenic corridors, and further north beyond the City boundary.

5. Winton Way joins two cities, Atwater and Winton, and provides a major arterial. It changes names to Applegate Road at the Southern Pacific railroad crossing and leads south to Highway 140, a road connecting Merced, Atwater and Gustine. Shortly after changing names, Applegate Road is intersected by Bell Drive and a Highway 99 on-ramp going south, but also an entrance to the City for traffic coming from Sacramento.

6. Part of Broadway should be approved as a scenic corridor, because much remodeling and revitalization is being done along the stretch from Winton Way to First Street, and an extensive street beautification program has been approved by the Redevelopment Agency.

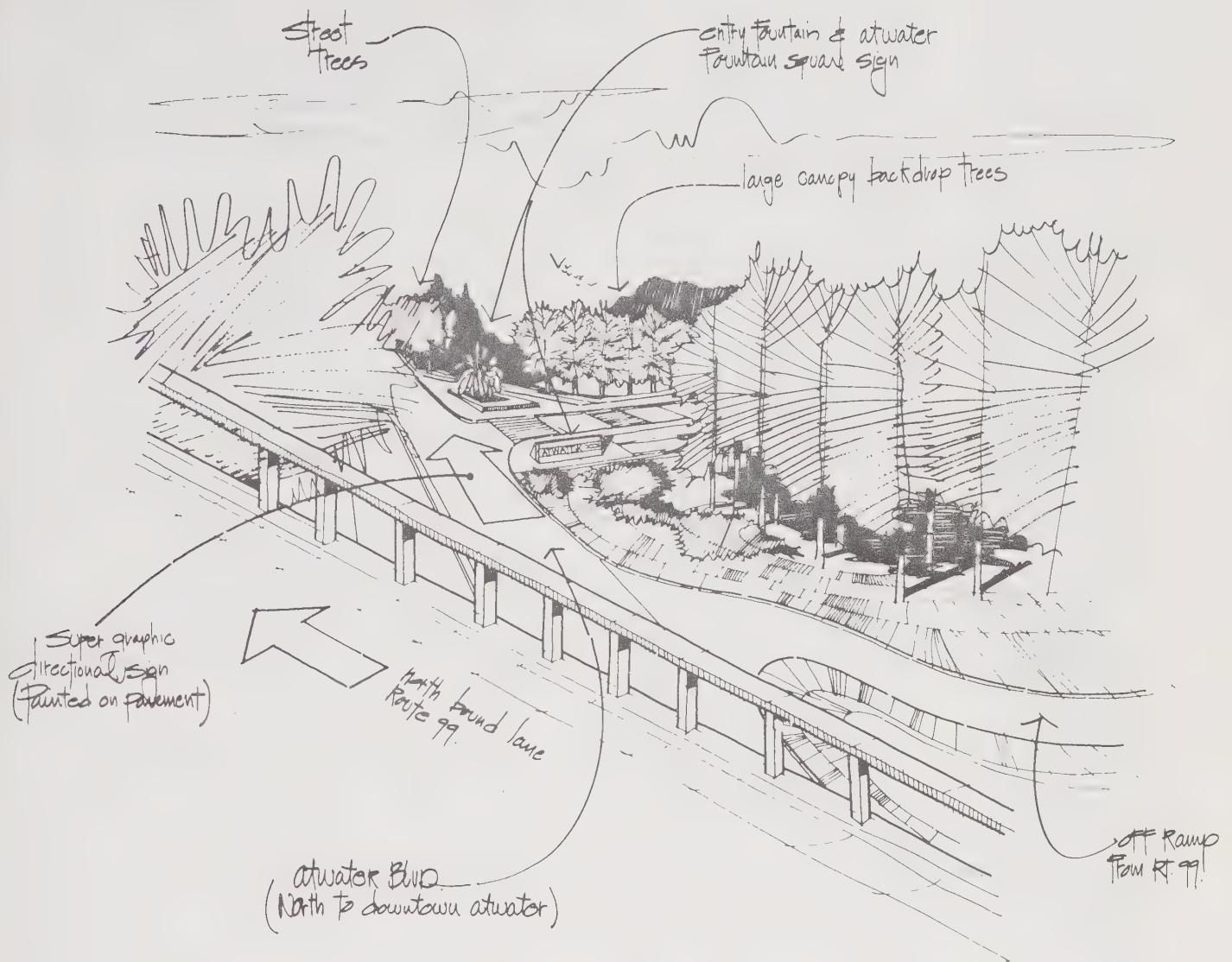
7. Buhach Road is the second new road that was not included in the 1975 adopted Element as a scenic corridor. However, several hundred acres of land are proposed to be annexed within the coming year, which will make Buhach Road Atwater's city boundary. It is a street of major importance, because it will probably become the major entrance to Atwater, passing by the proposed Planned Development, Rancho Del Rey Golf Course, to Castle Air Force Base main gate, only a few yards away from the new Air Museum.

8. Third Street is recommended to become a scenic corridor up to Grove, where the hospital, library and Ralston Park are located. Part of Grove Avenue should be included.

9. All entrances to the City of Atwater are of major importance and have to be included in this General Plan as Scenic Corridors, because they provide the first and lasting impression on visitors to our community.

#### Protection and Beautification Standards

The General Plan Review Committee is recommending development of an "Overlay Zone" for all lots fronting on Scenic Corridors. This overlay shall include as a minimum all of the following:



**PERSPECTIVE**  
**ROUTE 99 AND ATWATER BLVD. ENTRANCE TO ATWATER-SOUTH**  
 no scale

Source: Downtown Business District Revitalization,  
 Atwater, Ca. Adopted September 1979



### Utility Lines

When installing new or relocating old utility lines along scenic corridors, the City should have them placed underground (whenever economically feasible). Consideration should also be given to the undergrounding or relocation of existing overhead lines.

### Signs and Outdoor Advertising

The allowable size, height, number, and type of on-premise signs shall be based on minimum identification needs. Advertising should reflect a proportionate and orderly appearance in relation to the environment. The design, materials, colors, texture, and/ or location should also relate to their physical environment. Off-premise outdoor advertising shall not be permitted, and provisions shall be made for eliminating non-conformities.

### Regulating Land Uses

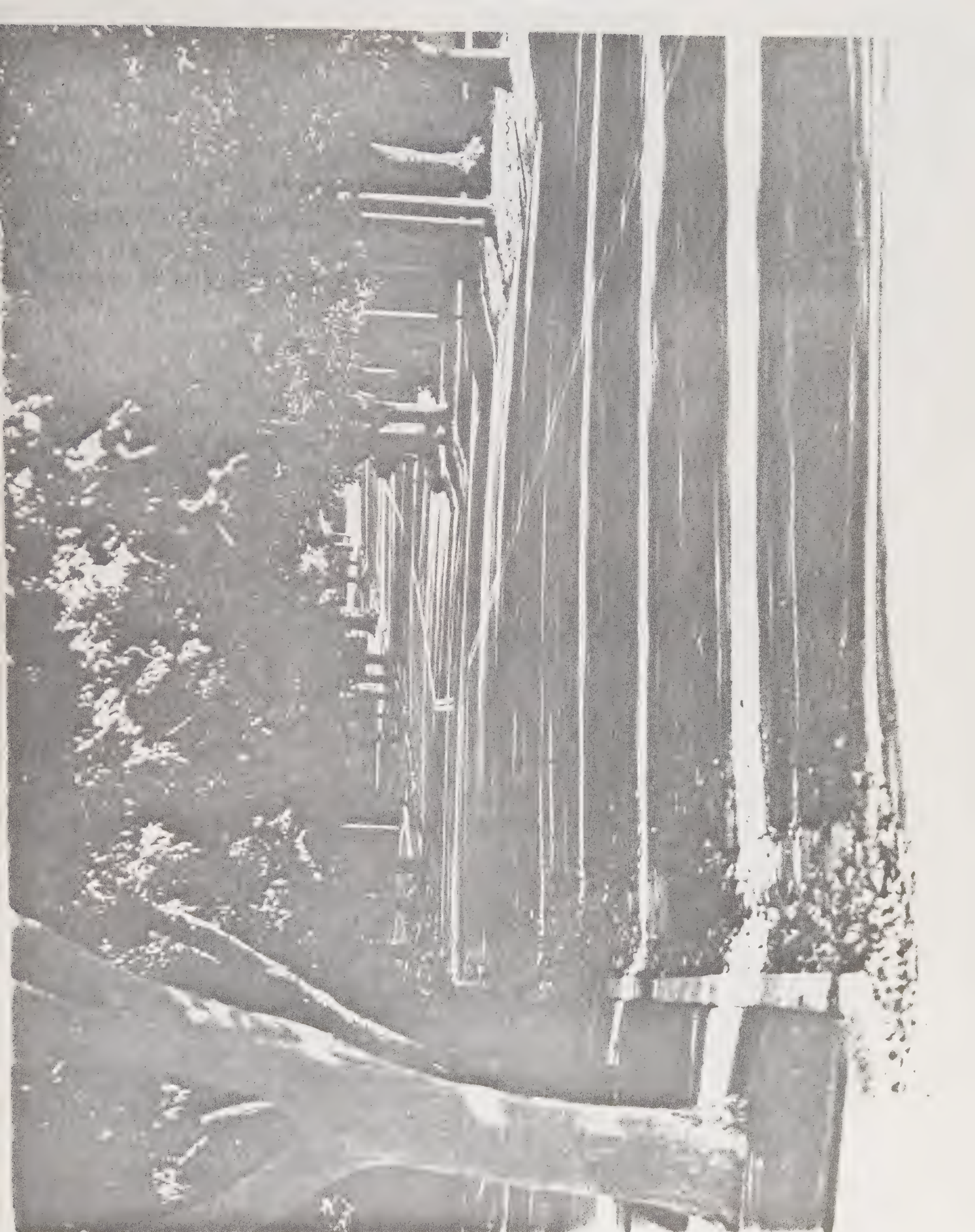
Any land use regulations employed for the propagation of the scenic corridor system shall be in uniformity over the entire corridor network and shall be consistent with the policies of the General Plan. These regulations should prevent the incursion of incompatible uses which may detract from the scenic quality of the corridor. When appropriate, the City should limit the densities and the accesses along these corridors so that the "scenic experience" will be enhanced. Moreover, building heights and setbacks should be regulated to prevent the obstruction of outstanding views and to avoid the monotony of uniform setbacks.

### Screening of Offensive Land Uses

Existing or indispensable offensive land uses should be screened from view or inconspicuously located if within a scenic corridor. Effective screening can be accomplished by proper use of planting, fencing, grading, or a combination thereof.

### EARTHWORK

Grading or other types of site alteration should be done with a minimum of disturbance to the natural contours and should result in land forms consistent with the surrounding topography. Adequate erosion control measures should be provided when altering susceptible areas.



GRAND ARCH: In the true sense of the word, a vision for the



### Vegetative Cover

Every effort shall be made to preserve existing stands of trees and other plant materials of outstanding value and to maintain them properly. Whenever possible, vegetation should be used in lieu of, or in combination with, other screening devices. Special attention should be given to the retention of vegetative cover as a means of preventing soil erosion and hiding scars on the natural landscape.

### Frontage Property

Structures on private or public properties fronting on these routes should be maintained in good condition. The grounds shall be kept free from trash, undesirable growth, and other objectionable uses. Frontages should be attractively landscaped.

### Development Design

Site plans, architecture and landscaping should be designed not only for an individual project's appearance but also for a harmonious relationship with surrounding developments. Excellence in landscaping, architectural, and construction designs should be encouraged within scenic highway corridors.

### Public Use

Public uses by all levels of government, federal, state, county and City, should be encouraged within these corridors for the opportunities they offer to obtain total aesthetic control. The responsibility of public agencies to achieve quality in their buildings and grounds is heightened in these corridors.



WINTON WAY: partially a Scenic Corridor  
partially to become one . . .





5 Corner Intersection: First Street, Shaffer & Bellevue Roads  
To eventually become Scenic Corridors  
Undergrounding of utilities - Landscaping & Trees  
would help

**HAZARDS**



## II. HAZARDS

Over the years much damage has been done to man's developments by earthquake shaking, subsidence, unstable soils, floods, etc. Much damage could have been avoided by keeping development from those areas that display the most severe risk, or by properly designing structures to withstand the hazards. Sufficient knowledge is now available to determine which areas should be avoided, and which will require special care in design to withstand nature's forces that are likely to occur.

An awareness and understanding of the potential risks and costs involved for development in such hazardous areas, coupled with proper design and adequate protective development standards can enable development to take place in such areas. Improper design of structures in such areas, however, can result in structural damage, personal injury, and costly corrective clean-up measures.

We live in an environmentally closed system, and the holding capacity of our air, water and land is limited. Population is an essential ingredient in the total environment which includes land use, transportation, water, air, solid waste management, etc. Until the last decade, man has reproduced himself with little thought as to the consequences to society. Today we are reaping the effects of such an implicit population policy. Planning must examine growth trend lines with a conscious awareness of the results of such growth and an awareness of the environmental consequences of alternative trends.

The side effects resulting from the technology man has created are having unforeseen effects. Air, water, thermal pollution, solid waste, radiation, pesticides and noise, to mention just a few. The elements are directed at analyzing hazards caused by man or nature which create danger to the life of man and his property, and the cause and effect relationships which surround pollution problems - which people create, and which people can



solve. The most important issues affecting our Planning Area are listed on the following pages:

#### A. SAFETY ELEMENT

Title VII of the Government Code, Article 5, requires all cities and counties to adopt nine elements as part of their General Plan, one of them is the Safety Element. It overlaps partly with seismic safety and also touches upon the subject of noise, a separate element.

##### Objectives

Regulations to minimize threats to public health and safety enjoy almost a special presumption of constitutionality. Although there has been little experience in regulating land use to protect public health and safety, there is every reason to believe that the objectives will present the strongest argument for upholding land regulations.

One kind of regulation directed at protecting the homeowner against possible injury to himself is the building code used. In many situations, our society does not allow people to assume all the risks. For example, there are cases upholding motorcycle crash helmet statutes. In a case involving a statute limiting working hours, (Holden vs. Hardy 169 U.S. 366, 397), the U.S. Supreme Court expressed the following policy:

"The whole is no greater than the sum of all parts, and when the individual health, safety and welfare are sacrificed or neglected, the State must suffer."

There is little doubt that the objective of reducing risks to individuals permits imposition of more stringent building codes, regulations, and strict conditions attached to the approval of proposed developments. In cases where the general public is effected, the posting of a bond may be required to ensure compliance.

## 1. AIR POLLUTION

The San Joaquin Valley Air Basin consists of the counties Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare, and the western portion of Kern County. The Air Basin lies in the southern portion of the Great Valley, and extends into the neighboring mountain slopes. It is bounded in the west by the Coastal Range, on the east by the Sierra Nevada Mountains, on the south by the Tehachapi Mountains, and on the north by the Sacramento Valley Air Basin. The map on the following page shows the California Air Basins.

The Basin covers more than 30,000 square miles, with approximately 92 square miles of inland water. The Valley's edges consist of gently rolling plains which are the result of alluvium deposited by a network of rivers and streams flowing from the Sierra Nevada and the Coastal Range. Some of this alluvium becomes windborne, and contributes to the high suspended particulate matter concentrations measured in the Valley, which exceeded the standards at all of the monitoring stations in the Basin. However, analysis of the total suspended particulate samples showed about 50 percent of the material originated from the soil.

### Meteorology

The climate of the San Joaquin Valley is one of hot summers and cool rainy winters.

During the summer months, the Pacific High pressure cell is positioned over the ocean to the west of the northern California coast. The clockwise flow of air around the high pressure cell results in persistent northwest winds over most offshore areas. This northwesterly flow is enhanced by the thermal trough through the interior valleys of California. The orientation of this trough and the pressure gradient between coastal and inland stations determines the variability in the summer weather pattern. Strong onshore pressure gradients occur with deep penetrations of marine air through the Carquinez Strait area (the only sea level channel through the

coast ranges). Cooler temperatures and stronger up valley winds result from this pressure distribution.

When the pressure differential between the coast and the interior is weak, stagnant conditions result and dispersion is relatively poor. This may occur when a high pressure cell aloft is located to the east of the valley during the summer (higher pressure over the Great Basin area than over the Pacific); thereby offsetting the westerly wind component, and the air flow through the Carquinez stops. If warmer air lays over the valley, stopping the rise of air out of the valley, the flow weakens and breaks up into eddies. It is this reduction in valley air flow that contributes to the highest oxidant readings.

Sometimes tropical air is advected into the area at mid- and high-levels and may result in thunderstorms. The thunderstorms are most prevalent over the mountains east of the valley floor. Occasionally a vigorous thunderstorm occurs over the floor of the valley preceded by gusty winds and blowing dust.

During the transition season of autumn, the storm belt and zone of strong westerlies shifts southward through California, and passing frontal systems may produce showers and rain. With the approach of winter, the subtropical high shrinks and frontal passages become more vigorous.

As the intensity of solar radiation steadily diminishes through the fall months, daytime surface temperatures in the valley decrease. This brings about a weakening in the thermal trough in the valley and the influx of marine air becomes negligible. Significant air stagnation occurs under these conditions.

In winter the Pacific High shifts further southward, diminishing in strength, allowing storms which develop in the Gulf of Alaska to penetrate further south, bringing clouds and rain into the San Joaquin Valley. Occasionally, these storms stagnate and deepen off coast, and rainy weather

# CALIFORNIA AIR RESOURCES BOARD AIR BASINS





continues for several days. In between these periods of "trough" weather, the valley may be influenced by warm ridges, with a build-up of pressure through the interior of California. These synoptic types are usually accompanied by mild and bright sunny weather. Another high pressure cell that affects the San Joaquin Valley is the Great Basin High, which develops during the winter months in the area west of the Sierra Nevada. When this high pressure cell is very strong, the descending winds scour out the valley and result in dry, bright winter days. When the high is weaker, a layer of cool, damp air is trapped in the basin and this results in extensive fog. This fog can occasionally be very persistent and last for a week or longer. The top of the low stratus and fog is usually below 3,000 feet; therefore, higher elevations are usually clear under these conditions. Ventilation conditions below the inversion base are usually very poor.

#### Sources of Pollutants in the San Joaquin Valley Air Basin

An emission inventory is a survey of all sources of air pollutants. The amount of each pollutant emitted are compiled in units of tons per day. The emission inventory prepared for the San Joaquin Valley Air Basin was based on 1976 data, gathered jointly by the Air Resources Board and the local agencies. The inventory includes carbon monoxide (CO), oxides of nitrogen ( $\text{NO}_x$ ), total organic gases (TOG), oxides of sulfur ( $\text{SO}_x$ ), and particulates.

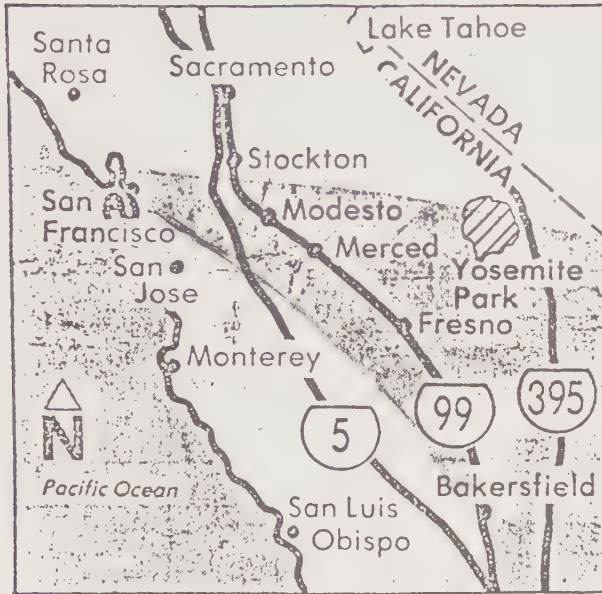
The daily average rate of emission of contaminants into the atmosphere of the San Joaquin Valley Air Basin during 1970 was 3,768 tons per day. During 1976 the emissions were 6,540 tons/day, an increase of 72%.

Sources in Fresno County produced the largest amounts of carbon monoxide and particulate matter, while that part of Kern County, that is located in our Air Basin, had by far the highest emissions of total organic gases, as well as oxides of nitrogen and sulfur.

# Modesto Bee

Wednesday

September 3, 1980  
Modesto, California  
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Color swath shows possible path of Bay Area smog.

## Lay the blame on Bay Area for smog

By CHERYL CLARK  
McClatchy Newspapers Service

SACRAMENTO — Bay Area smog, once thought to blow into Sacramento, actually curves to the west of the capital city and, in a kind of pinwheel effect, spins off toward Modesto, Fresno and Bakersfield, according to research done for the state Air Resources Board.

In fact, the research shows, the Bay Area's smog shows up one day later as far away as Yosemite.

The study, part of a long-term project by engineers at the California Institute of Technology, also indicates that Sacramento's pollution comes either from within Sacramento or elsewhere

See Back Page, SMOG

## Smog

CONTINUED from Page A-1

in the Sacramento Valley and is recirculated for several days throughout the valley.

If the current findings are confirmed by further analysis, said John Holmes, ARB research division chief, the information could have "very large important implications" for communities that have always complained they should not be blamed for their smog if it originates elsewhere.

Holmes said that "if it turns out that certain communities are heavily impacted by smog from neighboring areas, particularly heavily industrialized areas, a lot less will have to be done to control that community's stationary sources of pollution, or putting in public transportation systems."

"Local people are always pointing to cities upwind, saying 'We don't make this smog, and the ARB should not make us control (industry or growth) ourselves,'" Holmes said.

In complying with the federal Clean Air Act, he explained, local air basins where pollution shows up are the ones that have to control that pollution, even if the smog didn't originate there. The ARB has not been able to quantify the origins of smog until this research, and has angered many air districts by requiring regulations the districts don't think they deserve.

In some areas, those regulations have meant more expensive pollution controls or growth limits. "The benefits to impacted areas from this could be really substantial," Holmes said.

The ARB research includes dozens of tests of smog movement throughout the state. Holmes said the research will cost about \$500,000 this year. Much of it, including the Sacramento and San Joaquin Valley studies just completed, was done by chemical engineering professor Fred Shair of Caltech in Pasadena.

Shair said he accumulated his data by releasing several hundred pounds of sulfur hexafluoride, a colorless, non-radioactive, non-toxic, odorless tracer gas into the air at a Vallejo truck stop near Interstate 80, at the Woodland airport, at the Nut Tree and at several other locations in the Sacramento River Delta.

He said there appears to be a southward eddy air current around Sacramento, preventing Bay Area pollution from entering Sacramento.

The gas released at the Nut Tree and Woodland crossed Interstate 80 at Davis, curved southward toward Stockton and Tracy, and even reached Yosemite, Shair said. "It wasn't what we normally thought."

SAN JOAQUIN VALLEY AIR BASIN  
POPULATIONS, AREAS, POPULATION DENSITIES, AND EMISSIONS BY COUNTIES, 1976

COUNTY	POPULATION <sup>1</sup>	AREA, SQ. MI.	POPULATION DENSITY, PEOPLE PER SQ. MI.	EMISSIONS, TONS/DAY				
				TOG	NO <sub>x</sub>	SO <sub>x</sub>	PART.	CO
Fresno	465,100	5,968	77.9	142	85.3	7.7	657	555
Kern <sup>2</sup>	301,600	5,584	54.0	382	212	274	442	426
Kings	70,400	1,396	50.4	31.1	34.8	21.1	267	102
Madera	49,150	2,145	22.9	43.1	14.5	1.3	170	76.3
Merced	121,400	1,981	61.3	48.5	40.8	3.6	247	185
San Joaquin	305,100	1,415	216	93.6	59.6	18.5	319	360
Stanislaus	234,900	1,511	155	55.4	38.3	3.2	185	268
Tulare	215,100	4,844	44.4	65.9	39.7	3.0	292	265
BASIN TOTAL	1,762,750	24,844	71.0	862	525	333	2,580	2,240

<sup>1</sup>Based on estimates for January 1, 1977 Report 78 E-1, California Department of Finance, Population Research Unit.

<sup>2</sup>That portion of the county within the air basin.

# CALIFORNIA SUMMARY

## POPULATIONS, AREAS, POPULATION DENSITIES, AND EMISSIONS BY AIR BASINS, 1976

AIR BASIN	POPULATION	AREA, SQ. MI.	POPULATION DENSITY, PEOPLE PER SQ. MI.	EMISSIONS, TONS/DAY				
				TOG	NO <sub>x</sub>	SO <sub>x</sub>	PART.	CO
North Coast	221,840	12,280	18.1	68.8	42.3	19.3	182	414
San Francisco Bay Area	4,863,900	5,541	878	974	685	212	802	4,080
North Central Coast	456,600	5,161	88.5	103	127	64.3	213	420
South Central Coast	885,700	7,785	113.8	221	204	90.4	396	846
South Coast	9,727,100	6,536	1,488	1,900	1,270	390	1,480	9,030
San Diego	1,647,300	4,262	386.5	309	189	53.0	317	1,350
Northeast Plateau	70,230	15,884	4.4	31.6	33.3	3.7	208	185
Sacramento Valley	1,237,750	13,667	90.6	355	208	15.0	672	1,880
San Joaquin Valley	1,762,750	24,844	71.0	862	525	333	2,580	2,240
Great Basin Valleys	26,340	13,880	1.9	10.5	4.4	1.6	111	28.4
Southeast Desert	512,190	32,418	15.8	181	209	84.0	1,620	961
Mountain Counties	253,940	12,620	20.1	106	62.5	7.4	269	528
Lake County	27,250	1,261	21.6	8.6	4.3	0.3	18.5	46.2
Lake Tahoe	32,500	500	65.0	10.7	4.1	0.3	19.7	94.9
STATE TOTALS	21,718,000	156,639	138.6	5,140	3,570	1,270	8,890	22,100

Source: Air Resources Board



### Non-Attainment Areas

The 1977 federal Clean Air Act amendments require that all areas of the United States be classified according to their attainment or non-attainment of the National Ambient Air Quality Standards (NAAQS). In response to these requirements, the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) have classified and designated the San Joaquin Valley Air Basin as a "non-attainment area for ozone", an area not currently attaining the National Ambient Air Quality Standards.

The County Board of Supervisors adopted a "Non-Attainment Area Plan" in November 1978, to meet the requirements of Section 172 of the Clean Air Act Amendments of 1977.

The San Joaquin Valley Air Basin has also been designated as non-attainment area for total suspended particulates, and the California Air Resources Board is preparing the non-attainment area plan for the Basin.

The Non-attainment Area Plans (NAP) prepared throughout California will be submitted to the ARB to become part of the State Implementation Plan (SIP) for attainment and maintenance of the NAAQS. This SIP, once approved by EPA, becomes the formal course of action legally committed to by the State of California and local government for meeting all air quality standards for which the state is in violation.

The 1977 Clean Air Act Amendments contain federal sanctions which became effective July 1, 1979 for those non-attainment areas which do not meet Clean Air Act minimum requirements for an adequate NAP submittal. They are as follows:

1. No new or modified major pollution sources that would emit pollutants which contribute to violations of the NAAQS could be constructed after June 30, 1979.
2. Withholding of EPA grant funds.



# Worse than LA Potential high for pollution

By Brian Hovander  
Base Environmental  
Coordinator, CAFB

In the not too distant past the air in the vicinity of Castle AFB was so free of air pollutant that the nearby mountains surrounding our valley were visible almost every day of the year. Today our polluted air prevents us from enjoying that view except for a few days in the winter following strong winds and rainy conditions.

Meteorological conditions within this valley are the worst in the world for venting air pollution, even worse than the Los Angeles area. Our valley air, which already exceeds the limits set by the Environmental Protection Agency for ozone, has the potential of becoming the most polluted in the world should the increased air pollution accompanying population and industrial growth remain unchecked.

## **EPA limits**

The EPA has redelegated their authority by the Clean Air Act to the local Merced County Air Pollution Control District to control air pollution emissions in this county and develop a plan to help bring the quality of the air in this district within established limits.

The estimated 17,000 tons of pollutant emitted per year within this county come from military aircraft, motor vehicles, stationary sources, pesticides and agricultural burning. Our aircraft head the list with an estimated contribution of over 40 percent of the total emissions. Since military aircraft are exempt from regulation by the Clean Air Act (passed by Congress), the MCAPCD is limited in their ability to reduce emissions in this area, however the Air Force is indirectly working to reduce local emissions. The implementation of flight simulators (currently under construction) at Castle AFB is projected to reduce the amount of aircraft flying by up to 40 percent. A corresponding reduction in air

pollution emissions should result. Considering the fact that we have been using in excess of 100 million gallons of jet fuel annually, the projected 49 percent flying reduction would also save a considerable amount of fuel.

The proposed plan to re-engine the KC-135A Stratotanker Fleet beginning in the mid-1980s with CFM-56 engines could contribute significantly toward the improvement of local air quality. The proposed engines would result in a 66 percent reduction in hydrocarbon emissions and a 76 percent decrease in smoke output in comparison to the currently used Pratt and Whitney J-57 turbojet engines.

## **Ozone problem**

Ozone, the primary air pollution problem in this area, is the result of sunlight photochemically reacting with hydrocarbon emissions. A significant reduction in hydrocarbon emissions from our aircraft would significantly reduce the amount of ozone in the vicinity of Castle AFB.

Although the cost of this proposal to re-engine over 600 tankers in the Air Force Fleet exceeds \$1 billion, at today's price of fuel the 25 percent fuel savings would save the Air Force an estimated \$147.5 million annually.

It will be up to Congress to decide whether or not our aircraft receive these new engines which meet Federal Aviation Administration noise and pollution standards.

Federal concern for clean air has been limited to outside air thus far with the passage of the Clean Air Act as amended in August 1977. The quality of air in homes, offices, vehicles (including school buses), retail stores and other indoor environments where air pollution problems exist has not received the same concerns on a federal level.

Ozone pollution in the valley has already reached a level where plant productivity is being impaired. The EPA established limits for ozone may ultimately cause serious growth problems in non-attainment areas such as this if the reduction of air pollution levels is not attained. To prevent the continued degradation of the air we breathe in this valley, the EPA has widespread power to limit future growth if actions of local agencies do not result in cleaner air.

Unfortunately, new air reaching the valley is already polluted by the Bay Area. The Bay Area is able to attain air quality limits easier than we are because the fresh ocean air is clean when it first passes their area.

## **Yosemite too**

It may become very difficult to attain cleaner air in this area over the long term if emissions from the Bay Area are not significantly reduced or at least held at their present level. The impact of all this pollution build up is even beginning to impact the Yosemite Valley.

Although the EPA has been attempting to make us clean up our air, it appears that our air may become even more polluted in the future despite local efforts to reduce emissions if the areas upstream of Merced County's air are not required to meet even more stringent air quality limits than we must meet.

## **Pumps help**

The latest measure currently being implemented in California to reduce overall pollution is the recovery of vapor from vehicle fuel tanks when they are filled.

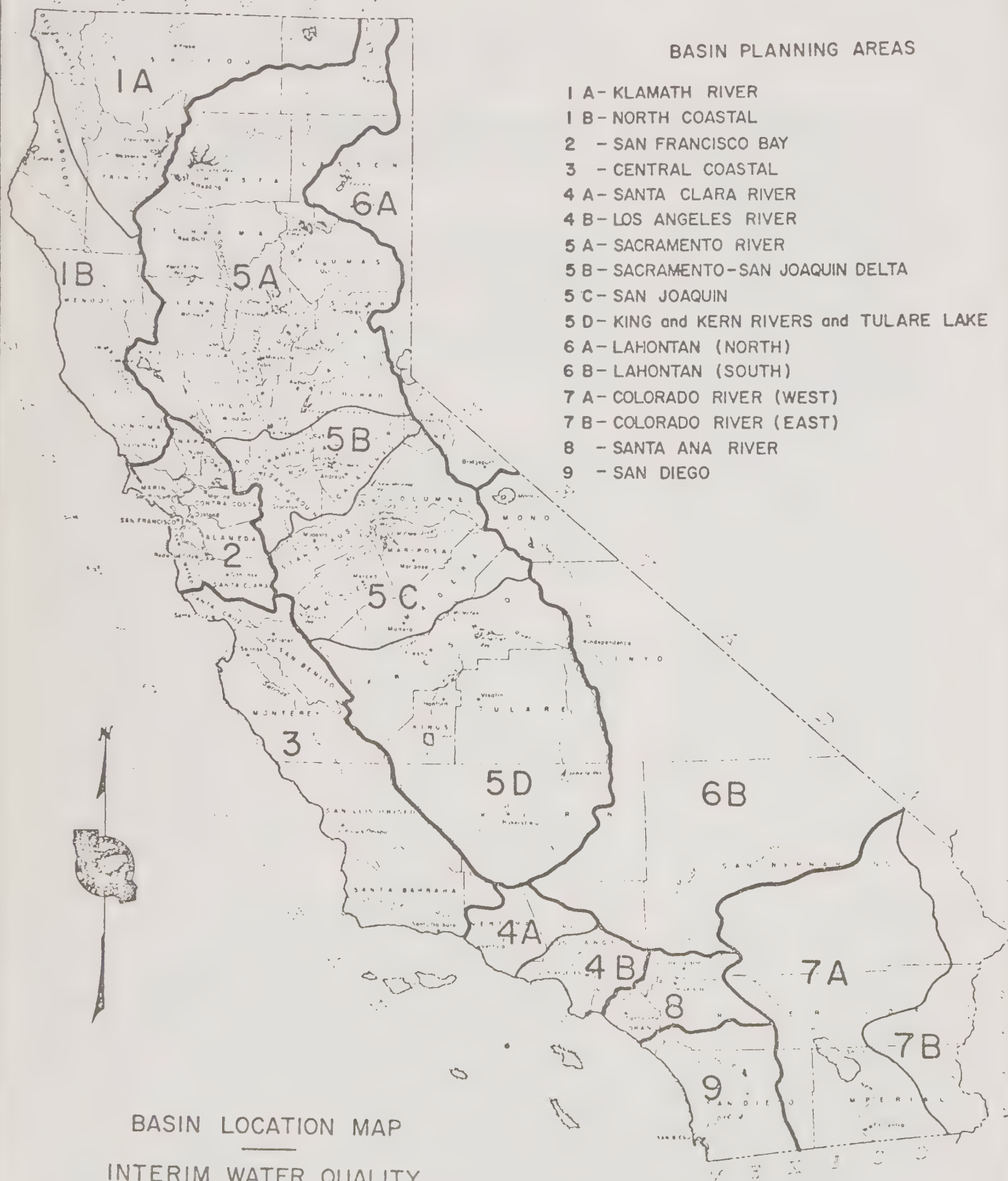
All mogas pumps in California are now required to have a state approved system installed. We have 30 such pumps on base which will have a vapor recovery system installed by June. The California Air Resources board estimates that implementation of Stage II Systems throughout California will reduce hydrocarbon emissions by up to 15 percent from motor vehicle operations.

3. Withholding of most transportation project funds except those that improve air quality, or mass transit, or those needed for safety reasons.
4. Section 304 of the Act allows any citizen to sue a government agency for not carrying out provisions of the Act, or any person for operating a facility in violation of the law.

In addition, there is a requirement for federal agencies, through their programs and their funding mechanisms, to conform to and assist in the implementation of the SIP.

The "Non-attainment Area Plans" for Ozone and Total Suspended Particulates are made a part of this General Plan by reference.





# BASIN PLANNING AREAS

- 1 A- KLAMATH RIVER
- 1 B- NORTH COASTAL
- 2 - SAN FRANCISCO BAY
- 3 - CENTRAL COASTAL
- 4 A- SANTA CLARA RIVER
- 4 B- LOS ANGELES RIVER
- 5 A- SACRAMENTO RIVER
- 5 B- SACRAMENTO-SAN JOAQUIN DELTA
- 5 C- SAN JOAQUIN
- 5 D- KING and KERN RIVERS and TULARE LAKE
- 6 A- LAHONTAN (NORTH)
- 6 B- LAHONTAN (SOUTH)
- 7 A- COLORADO RIVER (WEST)
- 7 B- COLORADO RIVER (EAST)
- 8 - SANTA ANA RIVER
- 9 - SAN DIEGO

BASIN LOCATION MAP

INTERIM WATER QUALITY  
CONTROL PLAN CALIFORNIA REGIONAL  
WATER QUALITY CONTROL BOARD  
1971

## 2. WATER POLLUTION

As shown on the following page, the State of California is divided into drainage basins for water control purposes. The City of Atwater is located in Basin 5C, "San Joaquin Basin".

The San Joaquin Basin Subregion is formed by watersheds located mainly in Madera, Merced, Mariposa, Stanislaus, and Tuolumne Counties. They all drain to the San Joaquin River. The major streams include the Fresno, Chowchilla, Merced, Tuolumne, Stanislaus, and San Joaquin Rivers. Major population centers are Merced, Madera, and Modesto. Agriculture, food processing, and mineral production are the principal economic activities.

Water quality problems in surface waters are associated mainly with municipal wastes, the large seasonal waste load from food processing, dissolved solids from irrigated agriculture, insecticides and pesticides, and certain chemicals from industry.

### DBCP Contamination

DBCP, the chemical Dibromochloropropane, was heavily used by farmers for about 20 years to control nematode parasites in soils. Nematodes are eel-like organisms that chew on plant roots and eventually destroy them. Its use has been outlawed in California since August of 1977 because evidence shows it to be a cancer-causing substance.

Jeff Palsgaard, Merced County Sanitarian, told the Atwater Signal in June of 1980 that the County's Health Department, with the help of the State Department of Environmental Health's testing lab in Berkeley, tested 205 private wells in the county, most of them in the V-shaped area shown on the following map. In 35 of those, contamination from the DBCP was found to be above the state "action level", or one part of DBCP per billion parts of water. Anything above that amount is considered as unsafe for humans. Contamination ranged to as high as 21 ppb, found in a Ballico ranch labor camp well, according to Palsgaard.

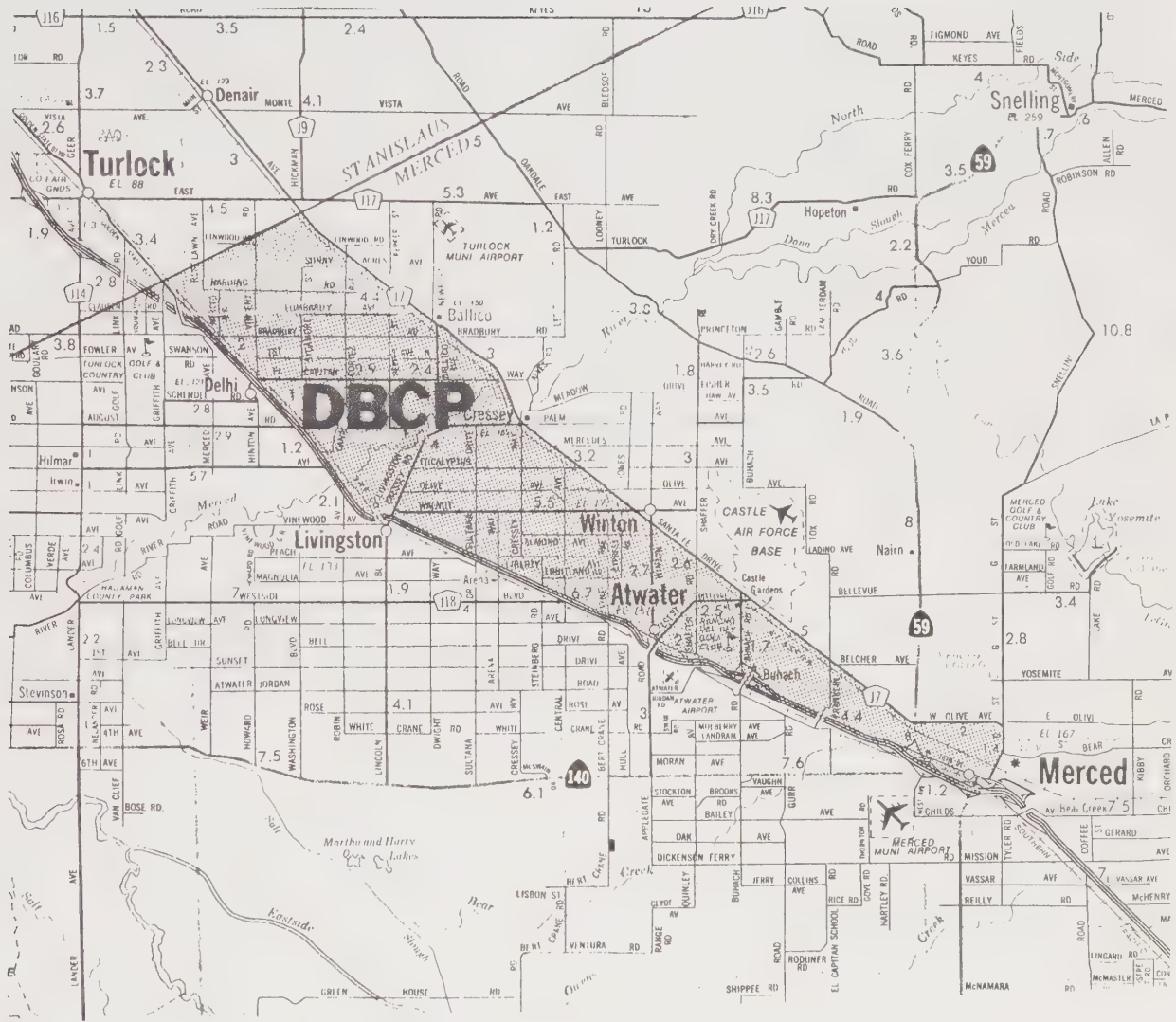
The State Department of Health tested the wells in the City of Atwater and a statement was issued in June, 1980, that none of our City wells produce waters containing DBCP higher than the recommended level set by the State Department of Health, and that no special precautions are necessary.

#### Nitrates (NO<sub>3</sub>)

The City of Atwater has also been notified by the Health Department that Nitrates (NO<sub>3</sub>) have been detected in drinking water of domestic wells in that area, and that groundwater quality should be tested before approving individual water wells.

#### Trichloroethylene

It has been learned that TCE, a cleaning compound, has leaked into the upper groundwater storage area. For the safety of the people concerned, the City shall not endorse development outside the City limits with individual wells, until the property is adjacent to the City, can be annexed and attached to the Municipal water system, or is included in a water district.



Area in Merced County where DBCP Contamination was found

Source: Atwater Signal



## Pesticides

Pesticides started out as a scientific revolution that swept American agriculture a few decades ago when potent new compounds--DDT, the organophosphates, the carbamates--first became available for use against farm pests. A new era in agricultural science was born, and so was a new industry. In California, where 15 to 20 percent of the nation's pesticide production is used, it is a billion-dollar industry; leaders in many things, we lead the world in volume and variety of pesticides.

Pesticides are poisons, of course; some of the best scientific talent of our time has dedicated itself to developing chemicals that are immensely destructive to the basic processes of life. And despite the myth of selective toxicity, most of them are dangerous to many forms of life. The selectivity is chiefly a matter of volume; an amount that will cause instant death of a microscopic organism is not enough to cause instant death to a human being. Also, many of the chemicals lose their toxicity after being applied, as a result of chemical breakdown caused by sunlight and interaction with organisms in soil and water. Some of them do, but some do not: parathion breaks down into a substance called paraoxon, which is more lethal than the original poison.

Inevitably there are problems when millions of pounds of such highly toxic chemicals are sprayed, dusted and otherwise deposited on open fields. Some of the problems:

- . Dangers to people exposed to pesticides during manufacture, transportation, storage and application. In 1977, a typical year, more than 1,500 cases of illness from pesticide exposure were reported in California. This was the total of illnesses formally reported and treated by physicians. No one knows how accurate this reporting system is--State officials estimate that it accounts for about 80 percent of the actual poisonings; a reputable scientist testified some years ago that it accounts for about one percent.

- . Dangers to nonpest animal life. Honeybees, for example, are commonly wiped out by pesticides. Sometimes a pesticide is passed along the food chain and poisons animals far from the fields; this was the case with the California brown pelican, which for a time was near extinction as a result of DDT.
- . Damage to crops and other plant life. This often results from aerial application of herbicides, some 20 to 60 percent of which commonly drift to neighboring fields.
- . Pollution of streams, rivers, surface runoff or underground water supplies. The most recent case was the discovery in well water of DBCP, the chemical that caused sterility among workers at an Occidental Chemical Company plant in California; it is also a known carcinogen.
- . Ecological mishaps of various kinds: Pest resurgence, also known as "bug backlash," results from application of a chemical that is lethal to all forms of insect life, including the main pest's natural predators; the pest population diminishes temporarily, then explodes. Secondary-pest outbreaks result when the biotic vacuum is filled by an explosion in the population of another pest that is now present in sufficient numbers to be economically damaging to crops. (None of these occurrences is unusual, by the way; they have happened to nearly every crop in the United States. The usual way of dealing with them has been to use still more pesticides.) A third such mishap is pest resistance, which results when a pest species develops strains that are immune to the pesticide. Some 400 major pests in the United States are now resistant to one or more poisons. In California, the strain of mosquito that carries encephalitis cannot be killed by a registered pesticide.

### 3. CHEMICAL SPILLS

During recent years, chemical spills have happened again and again. All modes of transportation can become involved in this kind of hazardous accident, but stationery sources are not exempt from it as we recently experienced with the ammonia leak at a nearby plant. In this case, the cause was found within minutes, and the leak could be stopped. Other cases, however, happen frequently on the road or freeway, when unknown chemicals were spilled out and the emergency team did not know how to treat it or what precautionary measures to take. Precious time can be lost, as well as lives and property.

The Merced County Office of Emergency Services is presently developing guidelines for possible evacuation procedures, which shall be made a part of this General Plan, and adopted by the City Council.

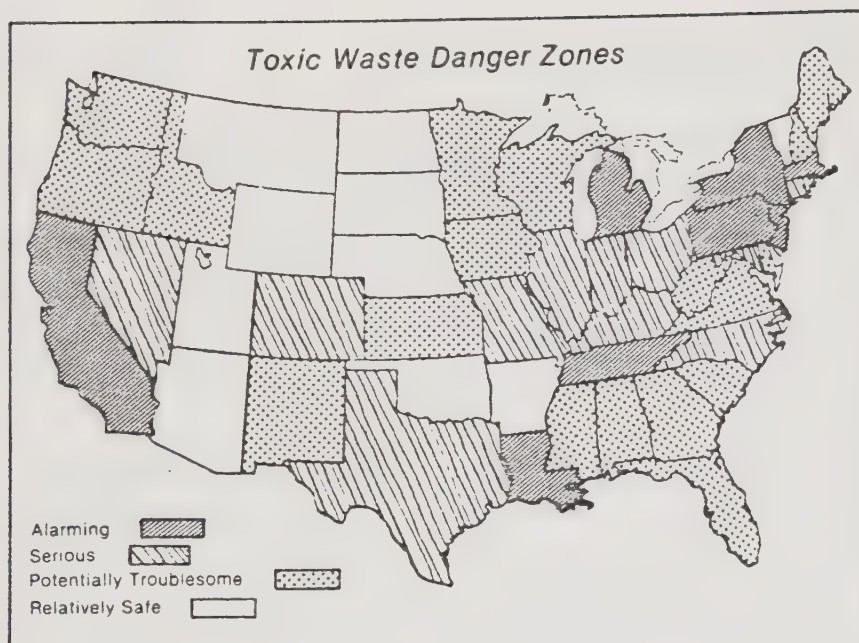
#### 4. TOXIC WASTE IN CALIFORNIA

When future historians look back on the environment-contaminating activities of our century, they will no doubt be impressed by our thoroughness: We have polluted the air we breathe and the water that runs in our streams and rivers. We have fouled the oceans, we are working on the ozone in the outer atmosphere, and we have even, in a giant step for mankind, strewn garbage on the moon.

We have also polluted--and we are continuing to pollute--the ground and the water under it. The unsavory truth about ground pollution is just beginning to force itself upon the national consciousness, and as it does it requires us to take a hard look at one of our society's strongly held beliefs: that a property owner has a natural right to do whatever he wants with his own land.

Recently a subcommittee of the House of Representatives, chaired by Congressman Bob Eckhardt of Texas, held hearings on the toxic waste-disposal practices of major chemical companies. Representatives of 53 of the nation's largest chemical concerns testified that they had poured and dumped, since 1950, 762 million tons of toxic wastes in 3,383 sites. About 94 percent of the wastes were disposed of on company property--but in most cases with very little protection against their seeping into groundwater supplies. Representative Eckhardt came to the conclusion that the industry as a whole "has been lax to the point of criminal negligence". If what the legislators heard was depressing, what they did not hear would have been at least as bad: They took no testimony from any of the smaller chemical companies or from other chemical-using industries such as manufacturers of pesticides and explosives, aerospace companies, metal smelters, oil refiners, electroplaters, leather tanners and textile dryers--all of which are known to produce large quantities of toxic wastes. Some of the wastes are dumped on company-owned land, some in publicly maintained disposal sites, and some of them wherever nobody happens to be looking. Everybody connected with toxic waste disposal knows there is a





lot of "midnight disposal" going on all over the country--but nobody knows how much, and nobody is doing a whole lot either to find out or to police it. Countless tons of deadly poisons have been spilled out across the land.

California is generally believed to be ahead of the other states in hazardous-waste-disposal sites, and it has some solid laws concerning working protection and transportation of wastes; it has occupational health centers for the training of toxicologists, epidemiologists, nurses and industrial hygienists. Nevertheless, sizable amounts of carcinogenic substances are in the ground and--in many areas--in the drinking water. One top state official says that our toxic-waste regulatory system, however impressive, "is too little--and we hope it is not too late."

Some of the legal machinery involved is very slow moving. There are two important pollution cases now in the courts, and--if the state can decide whom to hold responsible for widespread groundwater pollution in northern California--more to come. The two current cases involve the Aerojet-General Corporation just east of Sacramento, and the Occidental Chemical Company near Lathrup, ten miles south of Stockton.

### New Technologies

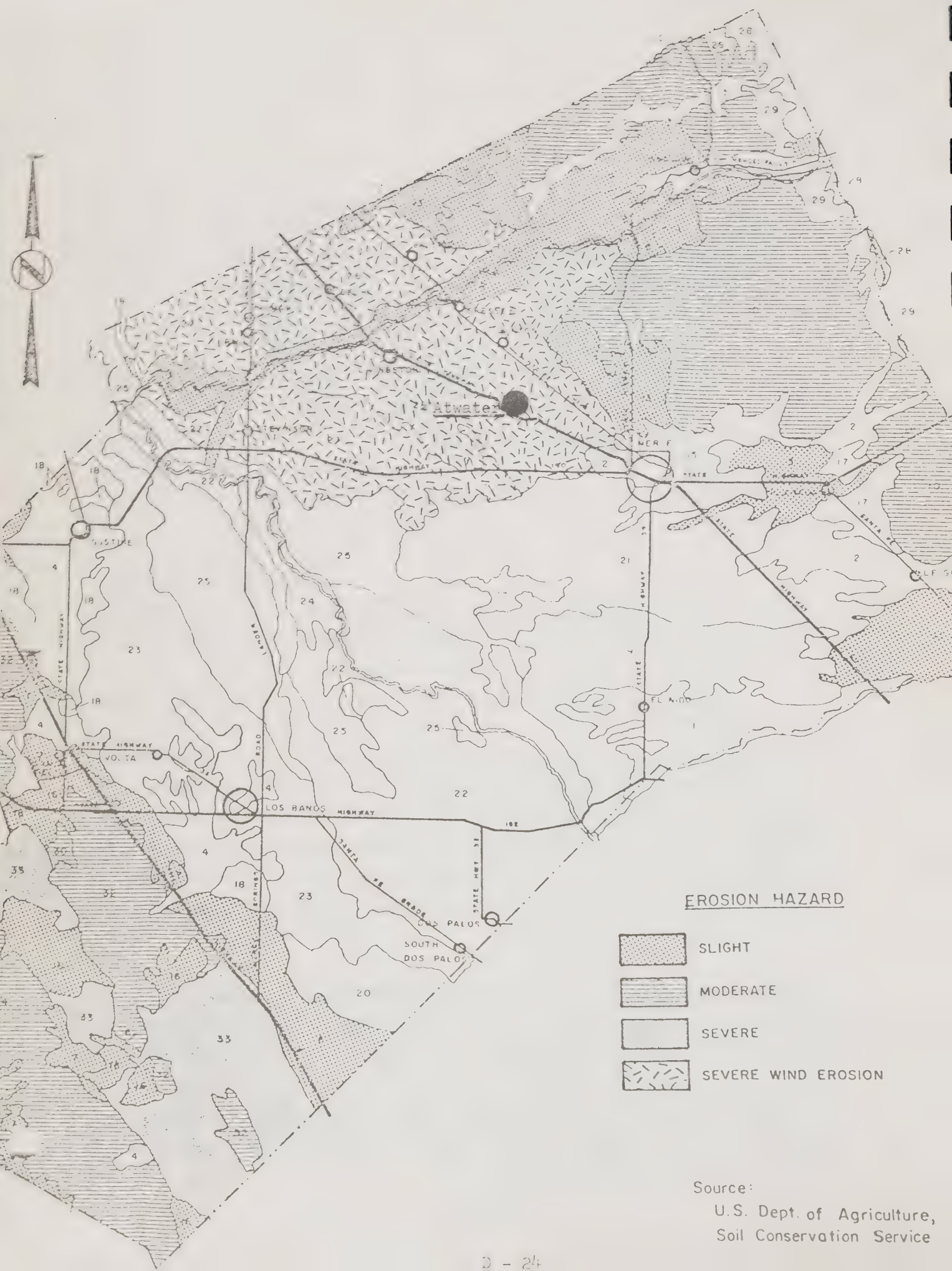
Robert L. Judd, who directs the Office of Appropriate Technology, is investigating new approaches to disposal of toxic wastes. One possibility is a high-temperature incineration--of either the molten salt or the rotary-kiln type--that can process about 200 pounds per hour and destroy or permanently isolate all extremely hazardous wastes.

Although the incineration technique sounds promising, Judd fears it may prolong the use of the worst toxics and delay the search for substitutes. He is more in favor of a strategy that would deal with waste products as resources rather than as garbage. Several approaches of this sort are being explored by the Office of Appropriate Technology. Some of the possibilities:

- . Conversion of waste acids to agricultural chemicals.
- . Recovery of metals, metal salts and acids from waste solids.
- . Recovery of solvents or production of energy from waste solvents.
- . Recovery of discarded laboratory-grade chemicals for other uses.

Waste exchanges and clearing houses have operated in Western Europe since the early 1970's, and similar operations are now being started in various parts of the United States. A California-based company, Zero Waste Systems of Oakland, was the first in this country to make a successful business of taking waste chemicals and trading or selling them to other industries. So far, however, only a small portion of waste chemicals is handled in this sensible manner.

Until some major change takes place, all the State can do is keep trying to get hazardous wastes deposited in fairly safe ways. The most trustworthy disposal sites are those supervised by the Department of Health. Nobody is quite sure what to do with them when they are filled to capacity. There was once talk of building parks over them, but most health officials shudder at the thought of children romping merrily on the grass above thousands of tons of toxic wastes.





## 6. EROSION

Erosion involves generally two somewhat distinct problems - the wear and removal of material from one site, and its deposition at another. The removal of soils through erosion can be damaging in situations of sheet and gully erosion of land surfaces, the wind-blown denudation of lands, the erosion of stream courses and banks, and the erosion of coastal cliffs, dunes and beach area. Deposition damage effects flood plains, rivers, lakes, reservoirs, and may clog drainage structures. Activities by man frequently accelerate erosion-related damages and losses.

Erosion is a relatively well understood and controllable problem insofar as it effects urban areas. In most areas undergoing development, however, the natural erodibility of the soil is far less important in determining the severity of future erosion, than is the type and amount of land modification being performed.

The reduction of erosion losses in urban areas is the responsibility of both, the developer who modifies the land surface by landscaping and construction of retaining walls and drainage systems, as well as the governmental agency which reviews and - to some extent - controls land modification. Following project completion, the user of the property assumes the continuing responsibility of erosion control through maintenance, landscaping, and drainage systems. Erosion problems in urban areas in California are, for the most part, well under control in those areas where appropriate engineering practices are properly applied.

Atwater: The map on the following page shows the area around Atwater where a very serious problem exists, identified as "severe wind erosion". It adds a significant amount of particulate matter to the air pollution in the San Joaquin Valley Air Basin, and needs to be controlled by vegetation covering to the largest extent possible.



## 7. NUCLEAR FALLOUT

It has often been said that the Atomic Age began in 1945, when the first three atomic explosions took place. On July 26, a test bomb was set off near the Alamogordo Air Base in New Mexico. A United States bomber dropped an atomic bomb on Hiroshima, Japan, on August 6 (Japanese time). The bomb razed or damaged buildings in an area of some four square miles, and claimed well over a hundred thousand casualties. Unheard-of amounts of radiation were released and took a heavy toll of the inhabitants in the days that followed. Another Japanese city, Nagasaki, fell victim to an atomic bomb three days later.

Atwater's proximity to Castle AFB, and the almost worldwide proliferation of nuclear weapons and power plants poses a significant danger in case of an attack or accident. The County Department of Emergency Services is presently working on evacuation routes and emergency plans, which shall be made a part of this General Plan when completed.

### Emergency Broadcast System (EBS)

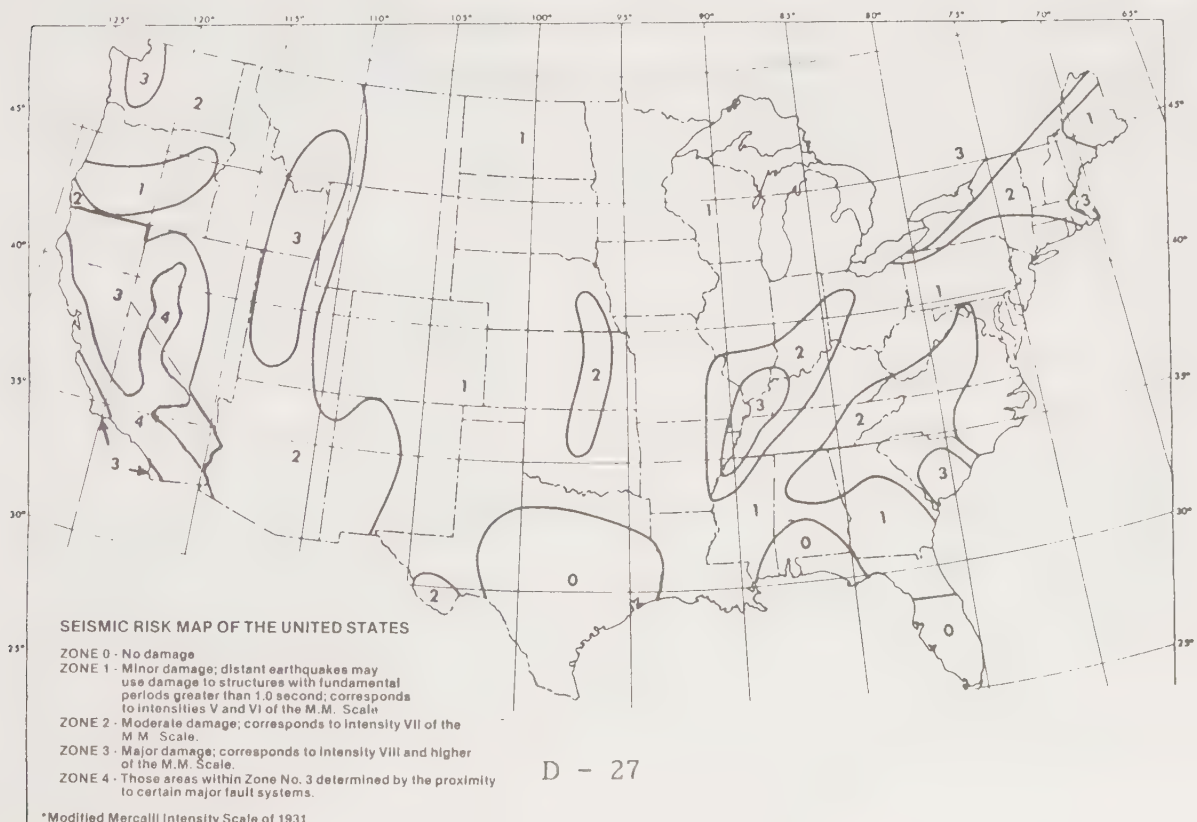
Certain radio stations in your area have been designated as part of the nationwide Emergency Broadcast System (EBS). These stations, because they have fallout protection, can continue to broadcast if fallout should occur in your community. If a nuclear attack occurs, EBS stations will remain on the air to broadcast official information and instructions to the public. All other TV and radio stations will stop broadcasting. EBS stations serving Merced County are: KMJ - 580 KHz, KFRE - 940 KHz, KYNO - 1300 KHz, KYOS - 1480, KWIP - 1580 KHz, and 620 KHz.

## B. SEISMIC SAFETY

The dangers existing in the Atwater area have been identified in the Seismic Safety Element to the General Plan with the help of geologists and seismologists from the Earthquake Research Center in Menlo Park, U.S. Geologic Survey in Menlo Park and Sacramento, and the California Division of Mines and Geology in Sacramento. After thorough research we have come up with the following conclusion, assuming that no dormant fault below us will be reactivated:

1. That tsunamic, seiches, fault creep, landslides and surface rupture are NOT expected to occur in our community;
2. That considerable damage can be expected from seismic groundshaking, causing failure of the ground in form of compaction, subsidence or liquefaction.

The Seismic Risk Map below is part of the Uniform Building Code, 1979 Edition, which was adopted by the City of Atwater in 1980. It is clearly shown that Atwater is located in Seismic Risk Zone 3, where major damage can be expected from seismic groundshaking, which corresponds to Intensity VIII and higher on the Modified Mercalli Scale.



## Modified Mercalli scale of earthquake intensities.

## THE MERCALLI INTENSITY SCALE

(As modified by Charles F. Richter in 1956 and rearranged)

<i>If most of these effects are observed</i>	<i>then the intensity is:</i>	<i>If most of these effects are observed</i>	<i>then the intensity is:</i>
Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, structures, liquids, bodies of water sway slowly, or doors swing slowly.	I	<i>Effect on people:</i> Difficult to stand. Shaking noticed by auto drivers.	
<i>Effect on people:</i> Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.	II	<i>Other effects:</i> Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver.	
<i>Effect on people:</i> Felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.	III	<i>Structural effects:</i> Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*; none to Masonry A*. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.	VIII
<i>Other effects:</i> Hanging objects swing.		<i>Effect on people:</i> General fright. People thrown to ground.	
<i>Structural effects:</i> Windows or doors rattle. Wooden walls and frames creak.	IV	<i>Other effects:</i> Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees.	
<i>Effect on people:</i> Felt by everyone indoors. Many estimate duration of shaking. But they still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, though sometimes, instead, people may feel the sensation of a jolt, as if a heavy ball had struck the walls.		<i>Structural effects:</i> Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Reservoirs seriously damaged. Underground pipes broken.	IX
<i>Other effects:</i> Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink.		<i>Effect on people:</i> General Panic.	
<i>Structural effects:</i> Doors close, open or swing. Windows rattle.		<i>Other effects:</i> Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed.	
<i>Effect on people:</i> Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers awakened.		<i>Structural effects:</i> Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.	X
<i>Other effects:</i> Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset.		<i>Effect on people:</i> General panic.	
<i>Structural effects:</i> Weak plaster and Masonry D* crack. Windows break. Doors close, open or swing.	VI	<i>Other effects:</i> Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land.	
<i>Effect on people:</i> Felt by everyone. Many are frightened and run outdoors. People walk unsteadily.		<i>Structural effects:</i> General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.	XI
<i>Other effects:</i> Small church or school bells ring. Pictures thrown off walls, knickknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle.		<i>Effect on people:</i> General panic.	
<i>Structural effects:</i> Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.	VII	<i>Other effects:</i> Same as for Intensity X.	
		<i>Structural effects:</i> Damage nearly total, the ultimate catastrophe.	
		<i>Other effects:</i> Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.	XII
		*Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.	
		Masonry B: Good workmanship and mortar, reinforced.	
		Masonry C: Good workmanship and mortar, unreinforced.	
		Masonry D: Poor workmanship and mortar and weak materials, like adobe.	

### Identification of Natural Seismic Hazards

While the San Andreas is California's most prominent fault, there are hundreds of other faults traversing the state. The nearest faults of major historical significance are the San Andreas to the west of Atwater; the Hayward and Calaveras faults of the northwest; the White Wolf, Garlock and Sierra Nevada faults to the south, and the Bear Mountain Fault Zone to the east. These faults have been in the past, and will probably continue in the future to be the principle source of seismic activity affecting our area.

The only fault known inside our county is the "Telsa-Ortigalita Fault", located in the western quarter of the county, dissecting the Coast Range in northwesterly direction. San Luis Reservoir is located on this fault. Hyde Forbes in two of his writings, (see Bibliography), describes another fault that crosses our county. It is the "San Joaquin Valley Fault", supposedly extending along a line from Poso Creek through Corcoran, Mendota, Tracy, and thence northward. It is not shown on any map, the correct location is unknown to us. As a matter of fact, the "Geological Survey Water-Supply Paper 1469", prepared by the U.S. Department of the Interior in cooperation with the California Department of Water Resources, refers to Forbes' fault, saying: "No evidence of faulting is recognized throughout the extent of the diatomaceous clay. The so-called San Joaquin Valley Fault (Forbes, 1931, p. 532 and 1941, p. 11-20) . . . cannot be traced by offset of the clay bed."

As our knowledge of hidden or historically inactive faults within the Central Valley increases, additional area of potentially severe faulting may be identified.

Atwater: According to specialists in the field of seismology there are numerous dormant (not active) faults below the San Joaquin Valley. As long as they remain dormant, no surface rupture is to be expected. However, recent earthquakes in California happened along unknown faults, or faults believed to be dormant: San Fernando Valley, Feb. 1971. Hope-



# PROVISIONAL FAULT MAP OF CALIFORNIA

## CALIFORNIA DIVISION OF MINES AND GEOLOGY

### EXPLANATION

#### FAULT CLASSIFICATION

Solid line where location is well defined; dashed line where approximate or inferred; dotted where concealed by younger rocks or under lakes or ocean.

----- Historically active fault associated with one or more of the following:

- a. a recorded earthquake with surface rupture (date of latest movement indicated).
- b. tectonic creep--slow ground displacement usually without accompanying earthquakes.
- c. displaced surveyed lines.
- d. seismic activity--alignment of earthquake epicenters (including microearthquakes).

----- Quaternary displacement, without historic record. Recognized by displaced alluvium, terraces, or other Quaternary units; offset streams; alignment of sag ponds, trenches, or saddles. Includes concealed fault-controlled ground water barriers or cascades in Quaternary sediments as indicated by water well data.

----- Fault without recognized Quaternary movement.

#### PRELIMINARY MAP

UP-DATED JULY 1972 BASED ON STATE MAP COMPILATION,  
1:750,000, IN PROGRESS. NOT REVIEWED FOR DIVISION  
STANDARDS.

D-37

5

SAN BENITO

~~MONTEREY~~

~~1963, D~~  
~~1954, D~~  
~~1800, D~~

836

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fully, none below our community will become active again. If one does, surface rupture would become a possibility.

## 1. TECTONIC SUBSIDENCE

Subsidence of the ground is occurring in many areas in California, and is especially costly if it occurs after construction has taken place. It is very important to recognize potential subsidence areas and the possible magnitude of effects at the land surface, before development of any kind is undertaken.

There are five types of subsidence, four of which happen slowly over a long period of time. They are: 1. Ground-Water Withdrawal; 2. Oil and Gas Withdrawal; 3. Hydrocompaction; and, 4. Peat Oxidation Subsidence. (These 4 types are described in detail in Atwater's Safety Element).

The fifth type of subsidence is compaction of the soils due to ground-shaking during earthquakes. This type of settlement results from the compaction of loose, cohesionless soils. The distinction is made between this form of settlement or "shakedown", and the settlement of saturated soils caused by earthquakes, which is termed "liquefaction". Settlement of as much as several feet at one time has occurred during past earthquakes.

Atwater: It is possible that differential settlement or "shakedown" caused by earthquakes could occur in our community. The most likely areas are those in which the groundwater surface is deep, (otherwise liquefaction would be more likely), the soils are loose to medium dense, and the soil profile includes strata of loose, clean and uniformly graded sand. A geologic soil survey is needed to make a definite outline of the locations, which would be most susceptible to "shakedown". The potential for groundsubsidence due to earthquake motion is also largely dependent on the magnitude, duration, and frequency of the earthquake waves.

## 2. GROUND FAILURE

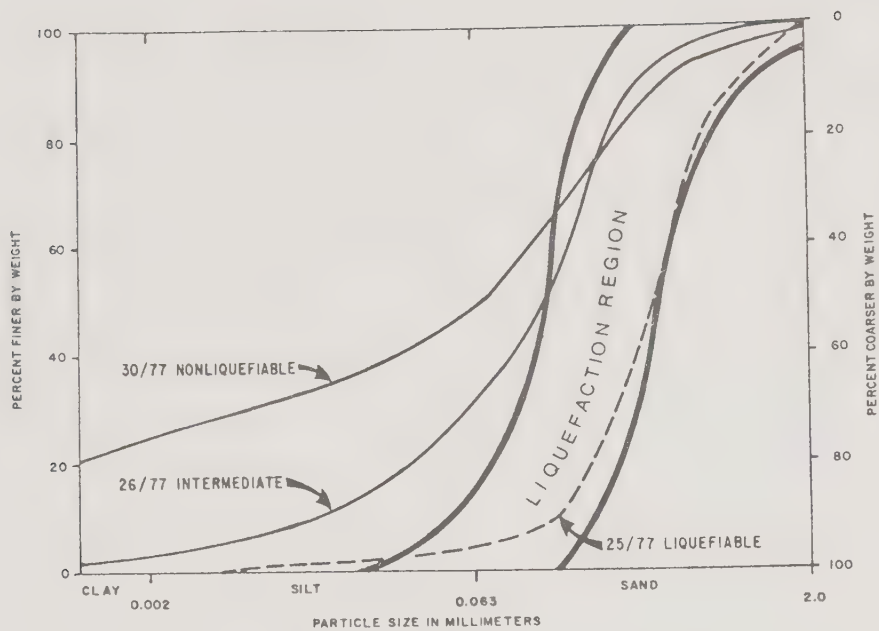
Glenn Borchardt, Soil Mineralogist and Michael P. Kennedy, Geologist, California Division of Mines and Geology, reported in the November 1979 issue of "California Geology" the following findings:

Certain water-saturated earth materials have a tendency to flow as a liquid when pore pressure is increased by disturbance. Ground shaking by an earthquake could constitute such a disturbance, and the resulting flow of the disturbed sediment is liquefaction. Liquefaction is a relatively rare phenomenon in that three conditions must be met for it to occur: 1)the sediments must be saturated, 2)sediments must be loosely packed, allowing pore pressure to be increased by a disturbance, and 3)soil particles must be of a certain size and distribution.

There are sophisticated techniques for determining and mapping liquefiable sediments and their potential for inducing ground failure. (Youd, and Perkins, 1978). For example, such a map has been prepared for the San Fernando Valley where thousands of penetration tests were required. Theoretically, any clay or fine silt in the interstices of a fine sand or coarse silt hinders liquefaction. Most geotechnical engineers believe that clay content over 15% will prevent liquefaction altogether.

Soils that liquefied during earthquakes in Japan had essentially no clay or fine silt and were characterized by exceedingly narrow particle size distributions. Mostly, these were fine sands with a median particle diameter of about 0.2 mm and limiting diameters of 0.02 mm and 2 mm. There is little doubt that other natural deposits with particle size distributions wholly within this range, termed the "LIQUEFACTION REGION" will liquefy if the geologic setting meets the other criteria for liquefaction.





Particle size distribution curves of three samples from the San Diego area. Sample 25/77 was judged liquefiable.

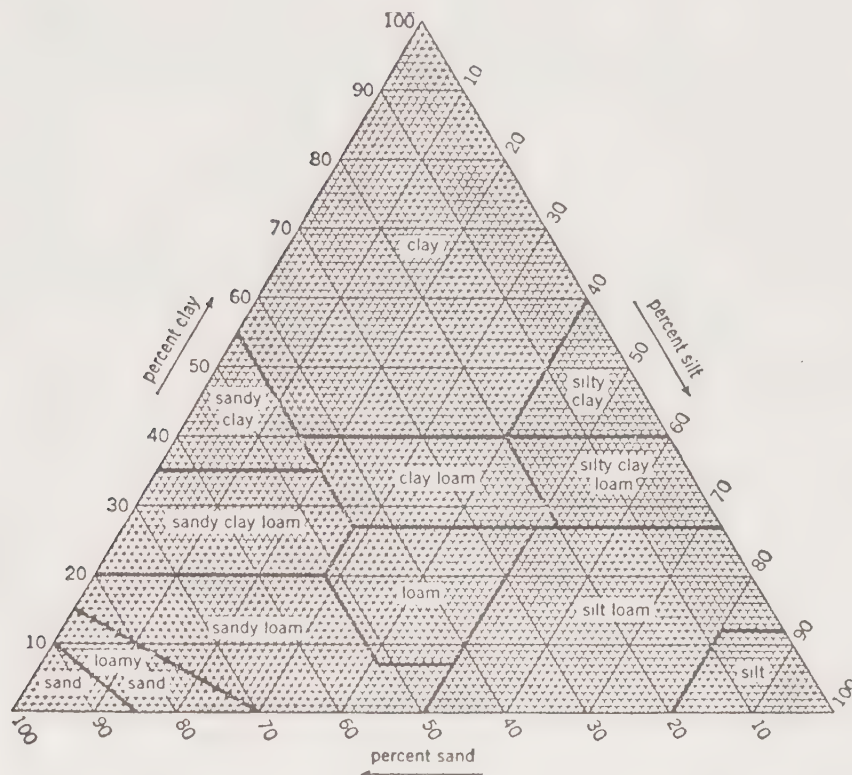
It is likely that the LIQUEFACTION REGION will become wider as more data is accumulated. In the meantime, only materials with more than 15 % clay should be considered "nonliquefiable". Materials with clay contents between 0 and 15 % probably pose a degree of hazards that is inversely related to the clay content.

Of the 16 soil samples analyzed for particle size distribution in this San Diego study, only one was judged definitely liquefiable. Another was judged nonliquefiable in that, regardless of the depth to water table, state of cementation, density, and other factors, the PSD alone was sufficient to exclude it as a liquefaction hazard. The other samples were of intermediate liquefaction potential.

Samples with clay content between 0 and 15% were judged to be intermediate in liquefaction potential.

Samples with 0% clay content were judged to be liquefiable.

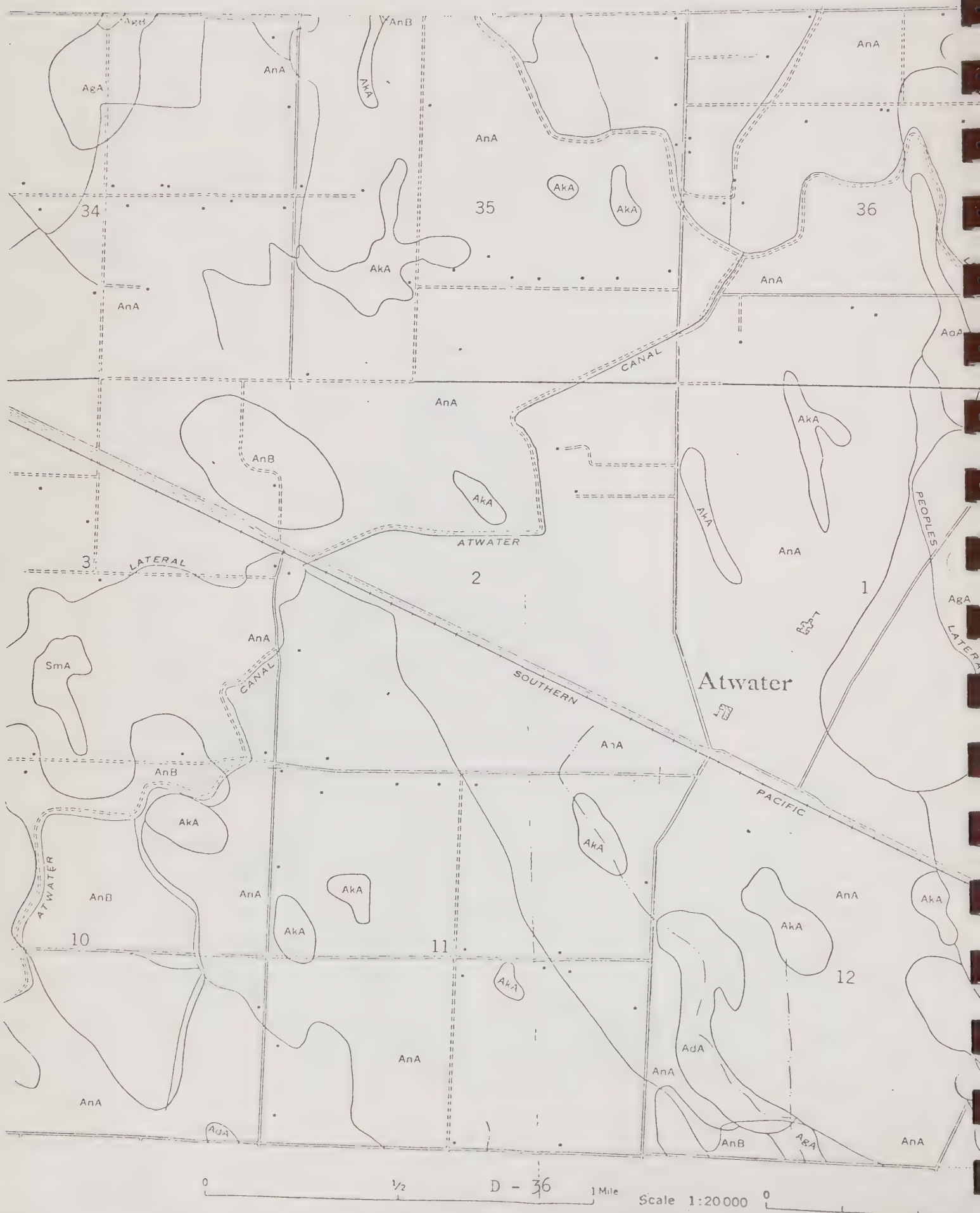
Samples with clay content greater than 15% were judged to be nonliquefiable.



Triangle chart showing the percentages of sand, silt, and clay in the basic soil textural classes according to the U.S. Department of Agriculture system.

#### ATWATER SOILS

AnA	Atwater Sand	AgA	Atwater Loamy Sand
AnB	Atwater Sand	AdA	Atwater Loamy Sand
AfB	Atwater Loamy Sand		
AdA	Atwater Loam Sand	Problem:	Wetness
AkA	Atwater Loamy Sand	Problem:	Wetness



R. 12 E | R. 13 E.

(Joins sheet 34)

(Joins sheet 35)

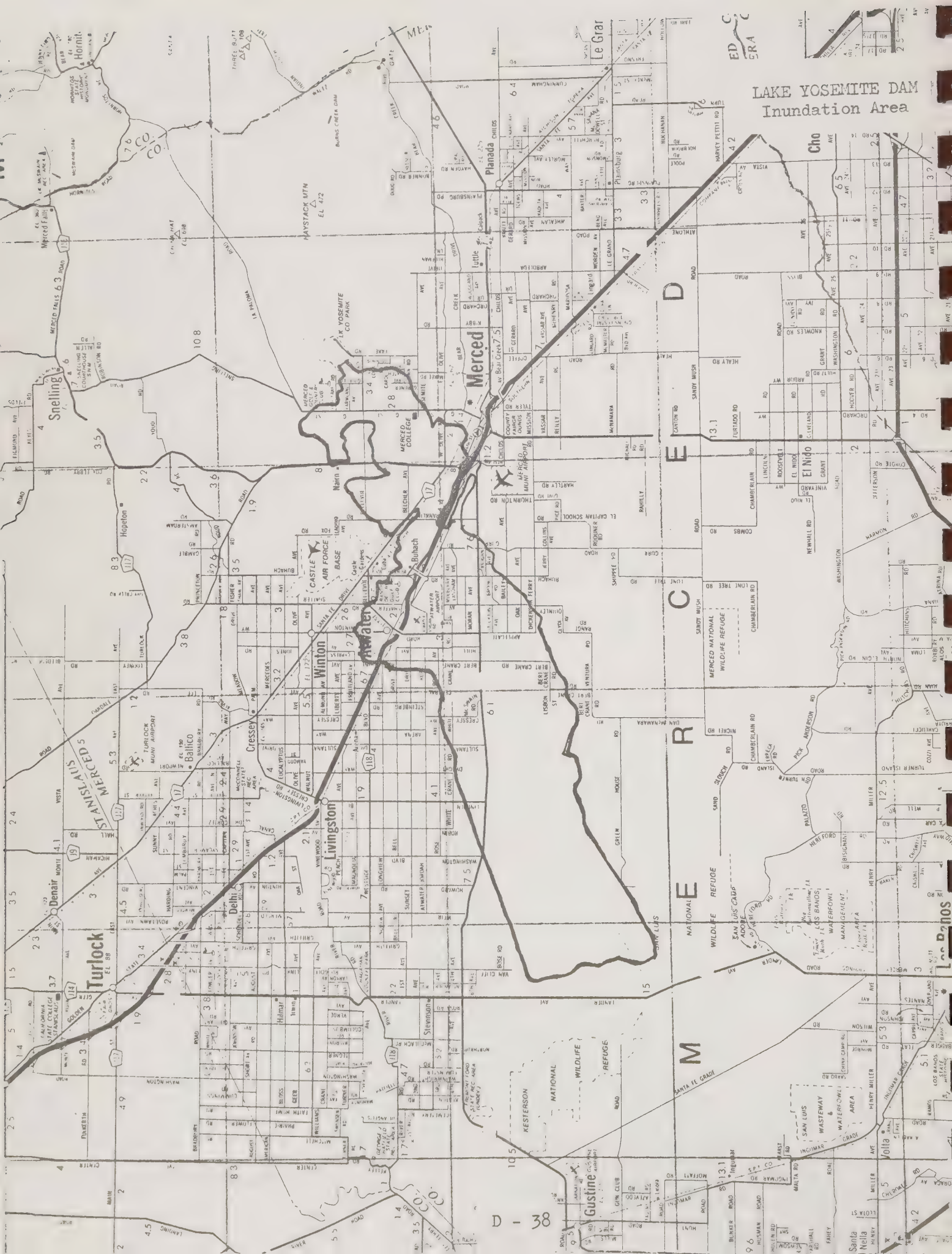


(Joins sheet 55)

(Joins sheet 56)

5000 Feet





LAKE YOSEMITE DAM  
Inundation Area

### 3. INUNDATION CAUSED BY DAM FAILURE

During the "Earthquake and Geologic Hazards Conference" in San Francisco, December 1964, Mr. B. Abbott Goldberg of the Department of Water Resources, said the following:

"...For the most part, the scope of the Department's earthquake investigations has been limited to consideration of the safety of dams under the jurisdiction of the Department, and to providing rational earthquake factors for use in the planning, designing, construction, operation, and safety of the various facilities involved in the State Water Project.

The Department has two major areas of concern with geologic hazards .... Recent disasters related to hydraulic structures were the result of geologic hazards other than earthquakes: The failure of the Baldwin Hills Reservoir, which has been attributed to movement along an active fault in an area subject to land subsidence. The failure of the Malpasset Dam in France was attributed to movement within the bedrock foundation under one abutment. The flood disaster below the Vaiont Dam in Italy was caused by a landslide, which propelled a tremendous volume of water over the top of the dam.

As a consequence of the failure of the St. Francis Dam in 1928, a major disaster caused by geologic hazards, which the engineers recognized only after the failure, the California Legislature adopted the "Dam Safety Act of 1929". This act brought all dams under the supervision and control of the State, except for those under a minimum size, and except, of course, those owned and operated by the Federal Government. At the present time, the Office of Supervision of Dam Safety in the Department of Water Resources bears the responsibility for checking the safety of over 900 dams in all parts of the State. For over 35 years, the Department has included seismic hazard evaluation in its investigations of proposed dam sites and sites for other hydraulic structures.



D - 40

On March 7, 1973, Senate Bill 896 became effective, which was adopted as Chapter 780, Statutes of 1972, adding Section 8589.5 to the Government Code of California. It requires "filing of inundation maps by certain dam owners with the Office of Emergency Services, Department of Water Resources, and specified local agencies. Provides that cities and counties having territory designated by Office of Emergency Services as being in areas where death or personal injury would occur as a result of dam failure, shall adopt emergency procedures for evacuation and control of populated areas below dams, and requires Office of Emergency Services to review such procedures and make recommendations relative to the adequacy thereof...."

#### Hazard Analysis in our Planning Area \*

Lake Yosemite Dam, completed in 1888 and operated by the Merced Irrigation District, is an earth dam blocking Main Canal, a tributary of the Merced River. This dam, 255 feet above sea level, impounds 7,000 acre feet of water when full.

The City of Atwater, and many square miles of unincorporated territory, would be inundated with floodwater when this dam fails. This water will drop 60 feet over a distance of 23 to 25 miles in about three hours. The northern floodwater boundary dissipates to channel containment in the San Joaquin River where it joins Eastside Bypass. The southern boundary dissipates into Salt Slough along the northern edge of San Luis Wildlife Refuge.

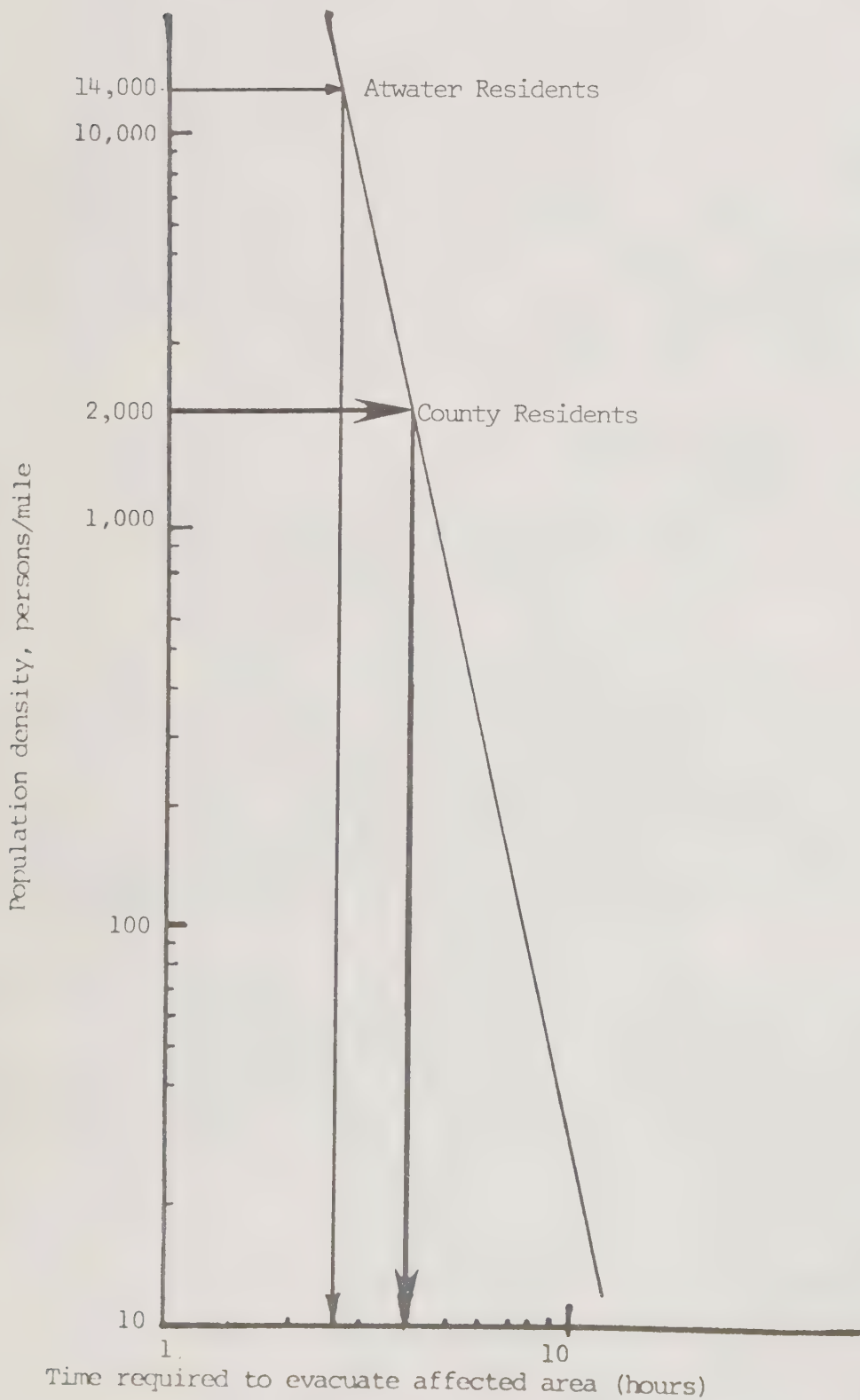
About 16,000 people will require warning and subsequent evacuation. Some 2,000 people living and working in Merced County unincorporated areas and about 14,000 living in Atwater will need to evacuate the dam failure flood inundation area.

\*Merced County Emergency Services Department



# LAKE YOSEMITE DAM FAILURE

Population Density vs. Evacuation Time



### Exchequer Dam

New Exchequer Dam, built in 1967 for the Merced Irrigation District by the Corps of Engineers in Mariposa County, is a rock structure which sits astride the Merced River 879 feet above sea level above the dam which impounds Lake McSwain. New Exchequer Dam impounds 5,169,000 acre feet of water in Lake McClure when it is full.

Failure of New Exchequer Dam would be a compounded disaster by causing subsequent failure of McSwain Dam, which we assume would also be full. The water from Lake McClure would drop 800 feet over a distance of 55 miles, in Merced County, at speeds ranging from 30 miles per hour to 7 miles per hour out on the flat valley floor.

Homes and business establishments in Merced Falls, Snelling, Hopeton, Delhi, Ballico, Hilmar, and Stevinson would be inundated. About 4100 county residents need warning to evacuate, and about 4370 people should evacuate the City of Livingston. The tremendous volume of water will also flood areas of Stanislaus County and terminate in San Joaquin County close to Stockton.

### McSwain Dam

McSwain Dam, built in 1966 for the Merced Irrigation District by the Corps of Engineers in Mariposa County, is an earthen and rock structure which sits astride the Merced River 425 feet above sea level. It impounds 425,000 acre feet of water when full.

Failure of McSwain Dam would cause the water to drop 260 feet over 25 miles at swift speeds of about 4.6 miles per hour. The water would again be contained in the natural channel after 5.4 hours just east of the Santa Fe Avenue bridge adjacent to Cressey.

Dwellings in Merced Falls, Snelling, and Hopeton would be inundated. About 975 county residents need to be warned to evacuate.



NEW EXCHEQUER DAM  
INUNDATION AREA



### C. NOISE POLLUTION

Noise is considered an environmental pollutant. Contrary to air and water pollution, noise is a waste product of man's way of life that does not remain in the environment for extended periods of time. Noise, commonly defined as "unwanted sound", is an environmental phenomenon to which man is exposed before birth and throughout life. It has long been known that noise of sufficient intensity and duration can induce temporary or permanent hearing loss, ranging from slight impairment to nearly total deafness.

There are valid reasons why widespread recognition of noise as a significant environmental pollutant and potential hazard or, as a minimum, a detractor from the quality of life, has been slow in coming. In the first place, noise - if considered an "unwanted sound" - is a subjective experience. What is considered a noise by one listener, may be considered desirable by another. Even in the same individual, wanted sound on one occasion may be considered as noise on another. Noise travels like waves on water, but invisibly. It is usually carried by air, but it can also be conducted by the wood in walls of homes, by the steel floors of offices, by the glass in windows, and by the metal bodies of autos and airplanes.

There are few places in this world where it is quiet any longer. The sound of our cities, their streets and sidewalks, is often all but unbearable. During the day they offend with hum of air conditioners, the roar of traffic, screeching of wheels, the shriek of sirens, and the staccato of jackhammers. Jets whine overhead, or bombers shake buildings with the roaring thunder.

The home does not provide refuge from noise either. Far from it. As homes become more and more mechanized to take the burden of labor off our hands, they add more and more of a burden of noise to our ears and nerves. Noisemakers there include roaring garbage disposers and dishwashers, washing machines and dryers, blenders and mixers, refrigera-



tors, radio, television and stereo, vacuum cleaners, toilets and banging pipes. The kitchen is the noisiest room in the house because it is so mechanized, and because walls and cabinets there have hard surfaces which don't absorb the noise.

Whether it comes in loud, sudden blasts, or as a steady high level of sound, noise is loaded with threats to the health of us all. And, ever increasing, it must now be recognized as a plague that has reached epidemic proportions.

The subject of "noise" got nationwide attention and widespread protests when the supersonic transport plane was proposed to be developed. The SST, like all planes that fly faster than the speed of sound, creates a "sonic boom" all along its flight corridor. This noise level has the capability to cause structural damage, and would have been intolerable to those who have to live with it, causing physical and mental harm. The opposition to the noise was probably a large factor that the proposed SST was defeated in Congress.

Dr. Alexander Cohen, top noise researcher in the U.S. Public Health Service, called the sonic boom a "hidden blessing", because it brought public attention to noise in general.

Health professionals, hearing experts, and sound specialists, aided by lawyers, public officials, and concerned private citizens, are leading the fight against the noise. And they are winning small but significant battles.

#### When Does Sound Become Noise

The rustle of the wind in the trees and the gentle roar of the surf are the sounds of nature. Few would say these sounds are without value to mankind, for men often seek such sounds to soothe and comfort them. The roar of a tornado, the crack of thunder, the crashing of a falling tree - all these are sounds that serve man well by warning him of potential

hazards. If the threat is real, then such sounds are not undesirable, are not without value, and thus are not noise as we have defined it.

The animal kingdom, almost without exception, relies on sound as a medium for communication. A frog leaping into a pond at the sound of a twig breaking, the female bird seeking out the mating call of the male, the millions brought to laughter by a comedian, the millions brought to the verge of tears by a Churchill - all of these are examples where sound is being used as a medium for communication. To those who desire such communication these sounds are not noise. It is only when a sound is not desired that the sound receiver perceives it as noise.

Until recently the noise levels and the number of noise sources were sufficiently low that it was relatively easy to escape from the more annoying sounds if desired. Today, by virtue of modern science and technology, the telephone, the radio and the television permit transmission of the sounds of voices and music over thousands of miles. The modern audio amplifier easily produces sound levels many times greater than the normal speaking voice.

So far, aside from the sounds of nature, we have been concerned with intentionally produced sounds which constitute noise only for those who do not wish to be recipients of those sounds. However, it is the unintentionally produced sounds, the residuals of technology, that for most people constitute the most annoying noises.

Man uses a broad variety of noise machinery for manufacturing his necessities and luxuries. The noise within many factories is loud enough to produce hearing damage in a large portion of the workers; construction noise disturbs the sleep and serenity of nearby dwellers; the noise in many offices is loud enough to disrupt activities and produce considerable annoyance, especially if privacy is invaded; lawn mowers, snow blowers and hedge trimmers disturb the neighbors, and interrupt sleep; garbage

disposers, food blenders, vacuum cleaners and dishwashers disrupt communication and destroy tranquility.

The 20th Century has witnessed an explosive growth in the application of technology to transporting man and goods. Trains and ships have been followed by automobiles, trucks, and buses, by propeller planes, jet planes, and helicopters. Along with this growth in transportation has come an accompanying growth in noise.

Man has utilized technology to control and improve his environment, yet much of this technology produces noise as an unwanted residual that degrades the acoustical environment. Pipes that carry steam or hot water to radiators clatter and clank. Narrow ducts that bring temperature -and humidity-controlled air, also bring noise levels ranging from a gentle swish to a not-at-all gentle roar.

Apartment buildings are the least expensive and most efficient known way to provide large numbers of people with controlled environments, yet many an apartment dweller is the unwilling victim of acoustical chaos. Lightweight walls afford him scant protection from the noises of his neighbors, and his own activities are hampered by the lack of privacy which exists.

Our modern way of life and its attendant affluence have given man more time and resources for recreation, but all too often there is considerable acoustical fallout from the various forms of recreation. The sounds of parties, radios, sport cars, motor cycles, power boats, model airplanes, and a wide variety of other devices become noise for those persons who do not care to indulge in the activities which produce the sounds. One particularly hazardous form of recreation for the participant is hunting or target shooting, since noise levels produced by firearms can easily produce irreversible hearing damage.

#### Causes of Noise Pollution

Dr. Vern O. Knudsen, a pioneer in acoustics, recently stated that "the

loudest noises to which we are exposed have increased some 20 decibels in the past 20 years, and if this rate of increase continues for another twenty years, they will become lethal". Although some people would question the validity of the use of the word "lethal", there certainly can be no question that noise levels are rising, and noise sources have been increasing.

### Transportation

Nearly all activity results in the production of noise. In general, the greatest contributors to high noise levels in the urban environment are virtually all transportation noises: trucks, buses, motorcycles, airplanes, and the rail system. Most cases of severe environmental impact in our City comes for airplanes.

Dissatisfaction with high noise levels which occur in urban areas has always been present. However, only in the last decade has noise been isolated as a pollutant. The level of general traffic noise in some urban areas has risen to such a degree that it constitutes a physical hazard for people who are continually exposed to it. One of the difficulties in enforcing transportation noise control ordinances at the state or local level is that violators are difficult to pinpoint. They are usually mobile, and therefore difficult to apprehend. A truck cruising at 50 miles an hour may produce 70 or 80 dB, perhaps even less, much of it coming from tire and wind noises. However, when accelerating from a stop, the same truck could easily produce over 100 decibels, with most of the noise emanating from the engine exhaust. This kind of a situation makes it difficult enforcement. The federal government has already taken steps to control certain noise conditions: in 1969 noise standards relating to aircraft noise were established. However, efforts to enforce noise pollution regulations must be concentrated primarily on the local level. California has enacted noise control legislation that is much more stringent than present federal legislation.



### Industrial Noise

Industrial noise sources have been subject to greater regulation than other noise, partly because control is easier, and partly because it is mostly in industrial situations that hearing loss and other noise induced traumas are evident. In addition to direct hearing loss, noise has been associated with a higher incidence of fatigue and industrial accidents. Efforts in industry have concentrated on separating personnel from noise sources, and, if necessary, redesigning equipment to produce less noise. With personnel and plant safety officials aware of noise hazards, occupational hearing losses in industry should decline considerably.

### Construction

The construction industry has its own unique problems. In addition to high noise levels to which employees are subjected, the public frequently is exposed to noise construction equipment, and is powerless to escape it. Piledrivers, air compressors and riveting machines top the list of the offenders. Lesser noises produced by continuously operating shovel engines, water pumps, and other small motor driven equipment often reach the industrial maximum for several hours during the day, even though the noise occurs in the open.

As in fixed industry, construction equipment has been modified with heavy duty muffler systems, and also by sound insulation built around the equipment either on a temporary or permanent basis. Restrictions as to operations during specific times of the day have been in force in most large cities for some time. Except on an emergency basis, construction is generally prohibited except during normal working hours. Construction still promises to be a heavy producer of noise, simply due to the nature of the industry.

### Recreation

Note should be made of an increasing source of noise: vehicles which have primarily recreational value such as snowmobiles, motorbikes, motorboats and small airplanes. In nearly all situations these vehicles are not

used to perform trips from one destination to another. The location of their use, the time of their use, and their ability to penetrate heretofore wilderness or "quiet" areas, have produced a generally negative reaction. Snowmobiles and motorbikes cannot be legally driven on public roads in most states, and there are many lakes where motorboats are prohibited.

No recreational toy has imposed as much change in outdoor environments as the off-road vehicle. Ten million of them cavort among the deserts, snowfields, and forests of the United State--snowmobiles, off-road motorcycles, jeeps, dunebuggies and ATVs (all-terrain vehicles). They have markedly altered recreational environments--physically, socially, and esthetically. The ORV owners love their machines; other recreationists are outraged by the noise, dust, commotion, rowdy behavior and enviornmental damage ORVs bring with them.

A 1975 report by the California Department of Parks and Recreation described the emotional conflict between ORV users and nonusers and concluded, "It is clear that the differences between ORV users and those who protest their intrusion and the damage they cause will be irreconcilable." Meanwhile, a recent Field poll showed that more than a third of California recreationists who visited the desert found off-road vehicular activity "particularly objectionable." In contrast, less than one percent felt that birdwatchers or hikers diminished their recreational enjoyment. Charles Warren, chairman of the President's Council on Environmental Quality, prefaced a recent report with the statement that the off-road vehicle problem is "one of the most serious public land-use problems we face." He added, "The federal government still has a long way to go before the use of off-road vehicles on the land under its care is in harmony with other uses."

#### Sonic Boom

A fairly new area of noise concern involves the sonic boom produced by airplanes traveling faster than the speed of sound. Aside from the physical damage caused by sonic boom, the sound created is usually much

higher than ambient noise levels, a factor which is known to produce psychological impact. Sonic booms can be "felt", making them even more feared by individuals who are susceptible to experiencing fear from certain noises such as thunder. Many psychologists have shown that the sense of sound is often associated with danger, that - like the animals - we react defensively and fearfully to noises which threaten us, and whose source is unknown.

#### Domestic Noise

Interior noise in residences has been increasing, not only because some noise sources have gotten louder, but also because construction techniques have changed. Thin walls, poor insulation, failure to use acoustically favorable materials because of the cost involved, have caused serious noise problems. No provisions were made for construction of dwelling units close to major noise generators. Until a few years ago, mortgage guarantee agencies did not require that homes built close to airports, noisy industry, or even expressways, contain any unusual acoustical improvements. A more aware industry, however, is now requiring such standards to protect their investment.

#### Common Outdoor Noise Sources

Among the many outdoor sources of noise, the major offenders are:

- Aircraft; e.g., small sport planes or crop dusters, as well as large commercial or military planes and helicopters;
- Vehicular Traffic; e.g., particularly trucks, buses, sport cars, and virtually all types of motorized cycles; recreational vehicles;
- Rail Transportation Systems;
- Industrial Plant Operations;
- Exposed Building Equipment; e.g., ventilation systems, cooling towers, air-conditioning compressors;
- Power Garden Equipment; e.g., lawn mowers, chain saws, garden tractors, cultivators;

- Earth moving and Street Repair Equipment; e.g., tractors, shovels, ditch diggers, air hammers;

#### The Noise in the City of Atwater

The Southern Pacific Railroad cuts through the southern part of our City, bordered on the southside by industry or vacant land zoned for industrial or commercial uses, along the northerly side approximately three quarters of the land are zoned commercial, with the remaining quarter high density residential. About 10 to 15 freight trains pass through the City on an average, with the highest permissible speed of 30 miles per hour.

#### Freeway 99

South of the railroad tracks is the freeway, bordered by agricultural and industrial uses mainly. Before it crosses the tracks and Atwater Boulevard, it is elevated at the west on-ramp. The residential developments near the westerly on-ramp were affected by a higher noise level until the State constructed an 18' high wall to block out most of the noise.

#### Atwater Municipal Airport

Our airport is located south of the freeway, south of and adjacent to the city's "Airport Industrial Park". There are less than 50 sport planes permanently located, and jet and commercial flights will not be permitted because of the proximity to Castle Air Force Base and the Merced Municipal Airport. No noise contours are required for this facility.

#### Castle Air Force Base

Castle is located adjacent to the City of Atwater in the northwesterly direction. A revised Noise Map has been released by the Air Force in 1980, and only a small area in the north-east portion of the City is shown to be in the 65-75 Ldn and above noise range.





# **SOCIAL & ECONOMIC**



### III. SOCIAL & ECONOMIC ISSUES

In the past, the City of Atwater has been a tranquil community with tree-lined streets, charming residential neighborhoods, a downtown business district with mainly specialty stores, and a few grocery stores throughout the community. During those years, active and retired military personnel and their dependents made up about two thirds of Atwater's population. Being entitled to all base privileges, not much support was given to local stores, and Atwater remained a "bedroom" community.

During the seventies the situation started to change. All military commissaries were made self-supporting, and the prices rose: equal with, or even higher than some local stores. During the same years, the City had a Council in favor of rapid growth, and many single-family subdivisions and apartment developments were approved.

The City also processed two applications for shopping centers on Bellevue Road. During preparation of the Environmental Impact Reports, one application was withdrawn, while the other applicant received approval of a three-phase shopping center. Phase I of that application was completed, and phases II and III have yet to materialize.

A third center approved for the Winton Way/Bellevue Road corner has also cancelled development.

With the advent of Proposition 13, cities have found it necessary to rely on revenue other than property taxes. Atwater, during the first two years, relied on reserves, State bail-out money, and grants for various public improvements for projects. With the previously approved residential developements, it became apparent that major improvements to water and sewer lines were needed. Storm water runoff caused temporary flooding, and the City had to allocate a major part of its reserves for capital improvements, which lessened some of the problems, but did not cure all the adverse situations.



It is hoped and planned to continue those capital improvements until all public works projects function properly, and dangers and nuisance conditions are alleviated. However, current budgets reflect inflation, a loss of State revenues , and a general economic slowdown which will further delay needed improvements.

A questionnaire sent to utility users reflected that the majority of residents in Atwater don't want the City to grow very much. However, in order to attract industry and commercial development, the proper trade base needs to be established. When an interested company does a market research, they hesitate to invest in Atwater because of the current base. In the meantime, the sales leakage to Merced continues.

The Atwater population as of January 1, 1981, is 18,270. The "Atwater Division" population, which includes Winton, is nearly 30,000. Population projections can be found on page A-17.

The Economic Impact Report was issued by Castle Air Force Base, using data as of March 31, 1980. According to this report, Atwater presently has:

1,908	military personnel living inside City Limits
845	retired military personnel, and
<u>5,724</u>	dependents

8,477 total military-connected population with all base privileges.

That amounts to 46 percent of the total Atwater population.

The primary economic factors in the Atwater-Winton area are agriculture and Castle Air Force Base. In 1975, sixty-one percent of the working population was employed in military or non-military capacities by the base. A large part of the remaining population is dependent upon the military as a market for local business.

Despite a relatively high unemployment among the civilian work force due to seasonal agricultural employment, a lack of large non-agricultural employers and a relatively young population, the city, taken as a whole, does not have a serious crime or delinquency problem.

The area's population is highly transient. In 1967 roughly one-half of the City's families changed residences. The transiency of the population along with its relative youth (23 is the average age), suggests that feelings of community and desire for community involvement would be minimal at best.

The area north of Bellevue is relatively newly developed and is the highest growth in the Atwater-Winton vicinity. Development in the area has leap-frogged leaving a gap in development between the community of Winton and the northern limits of Atwater. Housing development is filling in the spaces between the two communities. Housing in the area is moderate to middle income. Additional development in the Study Area would be unlikely to have a material effect upon the existing socio-economic structure.

Development would have the effect of blurring the distinction between Atwater and Winton. This is to be viewed as negative because the community of Winton wants to incorporate, and Atwater is not interested in annexing Winton. An agricultural buffer should remain between the two cities, in order for each of them to protect their identity, and to choose their own destiny. The planning area is reasonably well integrated (as is the total area) in terms of racial, ethnic and economic structure. This balance is due mainly to the integration of the U.S. Air Force rather than any positive actions with respect to planning.

The older section of the City of Atwater contains more substandard housing, a higher unemployment and delinquency than is to be found in the newer area. However, the area is not slum. Such problem areas are pocketed within the core rather than characteristic of the entire area. North of Juniper Avenue to Bellevue Road the area tends to be better

## PER CAPITA REVENUES

1979-80

				AUTH. # EMP.		PROPERTY TAX		SALES TAX		VEHICLE FINES		REC. FEES	
POP		EMP./ 1000 POP				PER CAPITA	AMOUNT	PER CAPITA	AMOUNT	PER CAPITA	AMOUNT	PER CAPITA	AMOUNT
Atwater	17,501	5.9	104			10.89	190,516	28.87	505,222	3.30	57,708	5.33	93,296
Ceres	13,100	5.6	74			15.17	198,759	47.41	621,111	2.64	34,561	.99	13,028
Delano	16,475	8.0	132			18.75	308,923	58.42	962,475	4.13	68,074	1.86	30,691
Hanford	21,812	7.7	168			15.27	333,056	64.46	1,405,933	3.66	79,785	.95	20,807
Los Banos	10,328	6.7	69			16.36	168,961	66.01	681,735	6.84	70,618	3.47	35,875
Madera	20,700	9.2	190			19.06	394,560	66.22	1,370,716	3.68	76,189	4.86	100,556
Manteca	25,007	7.1	178			14.48	362,153	55.42	1,385,827	4.01	100,226	5.57	139,315
Porterville	19,450	8.2	159			10.77	209,505	65.49	1,273,822	4.32	83,957	5.71	111,035
Sanger	12,432	8.4	104			23.74	295,116	34.70	431,334	1.87	23,227	4.74	58,963
Tracy	18,488	7.7	142			20.68	382,247	43.37	801,874	5.20	96,178	--	--
Tulare	21,550	9.2	198			13.85	298,483	82.61	1,780,286	5.53	119,123	5.74	123,779
Turlock	25,198	6.3	160			13.60	342,612	57.83	1,457,082	1.94	48,966	2.43	61,353
Yuba City	18,774	7.6	142			33.56	630,063	104.48	1,961,507	4.28	80,362	1.74	32,650
AVERAGE	18,524	7.6	140			17.09	316,535	60.79	1,126,076	3.90	72,229	3.70	68,445

PER CAPITA EXPENDITURES  
1979 - 1980

			FIRE			PLANNING		POLICE		PARKS & REC.	
	POP.	EMP./1000 POP.	EMP.	PER CAPITA	AMOUNT	PER CAPITA	AMOUNT	PER CAPITA	AMOUNT	PER CAPITA	AMOUNT
Atwater	17,501	5.9	104	3.34	58,422	1.95	34,171	25.26	441,993	9.23	161,481
Ceres	13,100	5.6	74	4.57	59,872	2.43	31,793	31.77	416,246	2.43	31,780
Delano	16,475	8.0	132	15.30	252,005	2.97	48,962	49.31	812,326	26.71	440,035
Hanford	21,812	7.7	168	19.98	435,795	4.06	88,630	34.82	759,477	15.25	332,614
Los Banos	10,328	6.7	69	4.62	47,671	6.34	65,521	60.39	623,703	23.66	244,329
Madera	20,700	9.2	190	20.50	424,333	--	--	28.59	591,821	17.57	363,619
Manteca	25,007	7.1	178	11.88	297,006	2.57	64,217	28.79	719,886	12.93	323,245
Porterville	19,450	8.2	159	23.06	448,581	5.18	100,720	41.37	804,658	17.82	346,623
Sanger	12,432	8.4	104	23.36	290,409	1.95	24,301	37.88	470,926	14.01	174,224
Tracy	18,488	7.7	142	21.44	396,470	3.71	68,614	37.93	701,276	9.81	181,393
Tulare	21,550	9.2	198	27.47	591,880	3.89	83,810	50.71	1,092,876	29.12	627,604
Turlock	25,198	6.3	160	17.24	434,473	2.61	65,817	35.64	898,164	13.68	344,614
Yuba City	18,774	7.6	142	33.87	635,965	4.04	75,762	53.72	1,008,465	14.32	268,920
AVERAGE	18,524	7.6	140	18.16	336,376	3.38	62,693	38.79	718,601	15.95	295,422



maintained and is somewhat newer. It is probable that demographic, socio-economic and social psychological factors in this area approximate those of the area north of Bellevue.

The heaviest concentration of military housing is located in the areas east of Shaffer Road. From Buhach Road east to Gurr Road the areas is essentially rural and largely agricultural. Housing near the golf course is middle income and relatively well maintained. A 300-acre planned development is proposed for the area around the golf course, up to Buhach Road, which will complement the community.

### SOCIAL ISSUES

Welfare, hot meals, home for battered women, drug abuse centers, etc., programs known as "social services", are handled by the Board of Supervisors for the whole County. Social issues the City of Atwater faces concern jobs, housing, transportation or bikeways, a "place of go to" for the young and elderly, etc.

Following are some of the services available in our community:

A very extensive recreational program is provided by the City's Parks and Recreation Department, and many recreational activities are available.

Discount cards are given to the elderly, city utilities are provided at a reduced rate, and a dial-a-ride cab service, extensively financed by the City, is being provided for the elderly and handicapped.

The County Community Action Agency provides bus service to Merced's medical facilities, social security and unemployment offices, shopping centers, etc., but the call has to be placed 24 hours ahead of time. When Atwater's dial-a-ride program does not fill the needs anymore, a mini-transportation service will need to be explored. Merced County, or MCAG as the Transportation Agency, is responsible for public transportation outside City Limits.

With gasoline prices escalating, it is imperative for the City, however, to establish a bikeway system, with Atwater High School and Castle Air Force Base being the two major destinations.

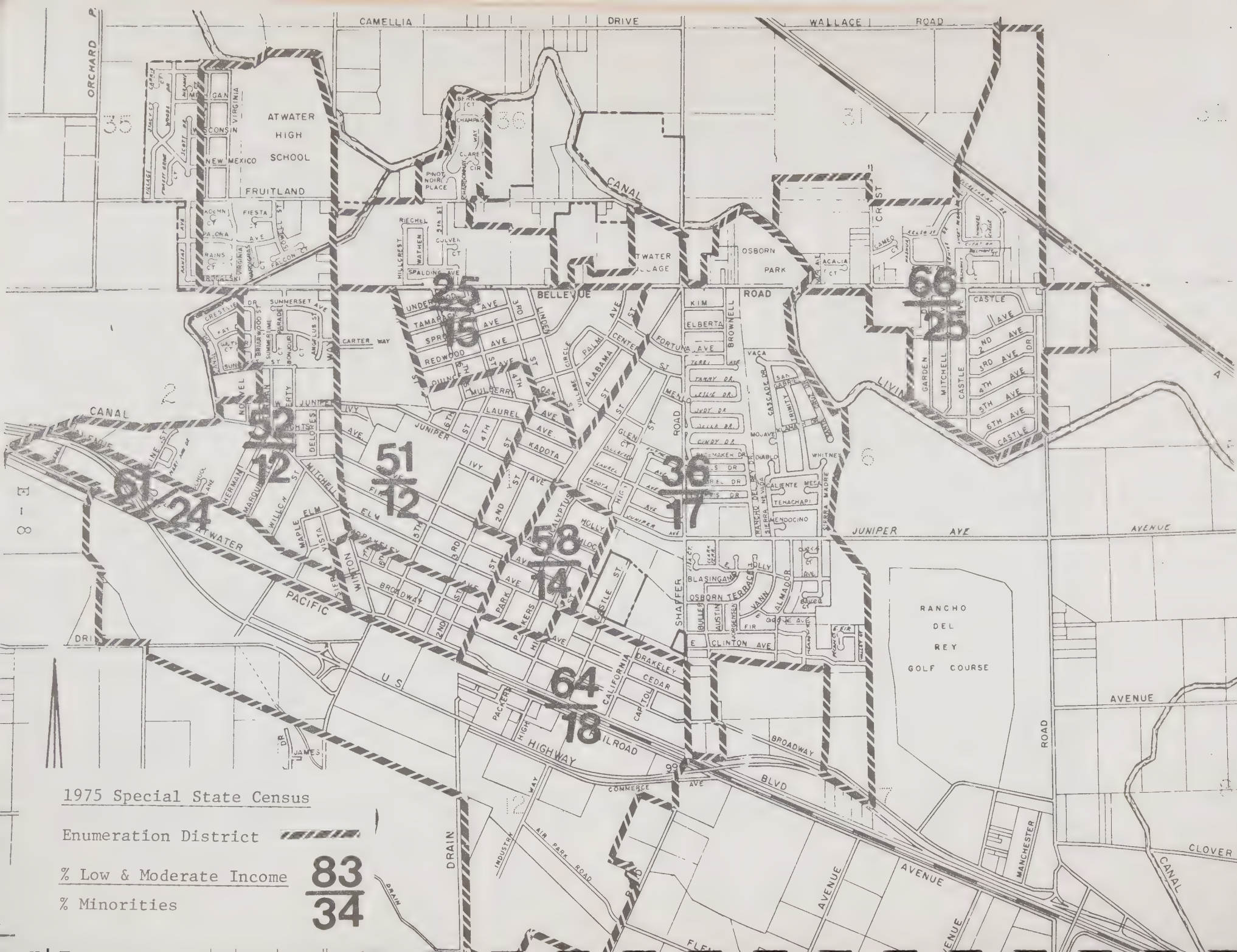
A Cultural Committee has recently been formed on a County-wide basis, and the public is encouraged to participate.

Older areas in the City are in bad need of rehabilitation. This encompasses housing, street resurfacing, water and sewer line repair or widening. For several years, the City has applied for Community Development Block Grants, and has received federal funding several times. The money provided some very much needed public improvements and rehabilitation of residences and apartments in target areas north of Atwater Boulevard, west of Winton Way. The City's application for HUD funding in 1979 and 1980 were not approved because there were supposedly more "needy" communities than Atwater.

Another form of rehabilitation is provided in the Redevelopment Area, financed through tax increments. The City Council, who is also the Redevelopment Agency, approved the "Downtown Revitalization Plan" in September 1979, which contains a 10-year project for the area between Winton Way to First Street, and Atwater Blvd. and Cedar. Several business owners have remodeled their buildings, receiving assistance from the Agency for public improvements and store-overhangs, as far as they are located above public property.

The County-Housing-Authority is going to build 36 residences for low-and-moderate-income families, and the Kingsview Work Center is building 36 units for handicapped people at two different locations in the City.

There are no senior citizen housing developments in the City, which is very badly needed, especially at locations in walking distance from shopping and other needed facilities.



1975 Special State Census

Enumeration District

% Low & Moderate Income

% Minorities

**83**  
**34**



Atwater's schools can be considered another social service. Presently we have one High School, one Junior High, 7 Elementary and 2 Paraochial Schools. They all contributed to Atwater's educational system having earned an outstanding reputation state-wide.

While many cities nation-wide are losing students, the population growth in the San Joaquin Valley has created capacity problems in many of our schools. During the year 1977-78, many subdivisions and apartment developments were approved in Atwater, with almost 1,000 units not constructed yet, or being under construction but not occupied yet. When they are completed, about ten additional classrooms will be needed above the present capacity, for the students of elementary school age expected to be generated from these approved projects.

There is also a big need for day-care centers in the area. The City now, following State law, allows 1-6 children any place in the residential zones, but a Use Permit is required for 7-11 children. Public hearings and notification of property owners 300 feet around subject property will enable us to protect certain people from excessive noise (i.e. day sleepers).

Minorities and Low & Moderate Income Families are very evenly distributed throughout the City, and no special program for disbursement is needed.

#### THE ECONOMIC SITUATION AFTER PROPOSITION 13

For many years, Atwater, like many valley communities, maintained a conservative fiscal attitude. Budgets in many cases reflected large reserves.

With the passage of Proposition 13 and the reduction in available revenues, it became necessary for many cities to rely on these reserves as a funding source. The voters have also approved Proposition 4, known as the "Gann Initiative", which set government spending limits. Consequently, Atwater's reserve funds were further allocated for needed public improvements that had been contemplated, but not undertaken in the past. These initiatives, coupled with high inflation, have exhausted Atwater's reserves.



As growth rates slow and inflation continues, general managers must either pass more severe guidelines along to all program managers or they and their central staff must devise techniques for making selective priority proposals between program areas.

Current city management techniques include the refinement of service categories to reflect degrees of local jurisdiction, levels of social impact, and refinement of techniques for illustrating the true costs of each activity. City managers also realize that they are expected to make the first public pronouncement of each proposed service elimination, and that they will shoulder the brunt of public reaction while the governing body assesses its options. While they propose to defend strongly their priority recommendations, they recognize the political realities of the process and the added career stress involved.

During the period of steady growth characteristic of the past two decades, public managers and legislators have considered service priorities principally in terms of additional or expanded programs. Under the initial impact of funding constraints, officials have tended to miniaturize all services through across-the-board cuts and growth inhibitors, rather than facing the politically unpopular decisions that result in severe service reductions or service elimination.

Part of the basic American ethic is a distrust of government. Americans distrust power in someone else's hands to control their individual destiny. For most of America's history, the general population has been self-sustaining, possessed of considerable personal space, and only wanting government to leave them alone. During recent years, when vanishing frontiers, urbanization, ecological deterioration and unequal socio-economic opportunities have become more prevalent, a considerable portion of the public, and perhaps a majority of the literate, affluent society, has remained relatively unaffected by the changing circumstances, and still retains the pioneer philosophy of government and its employees.

Elected officials generally agree that the time is approaching when some governmental services must be eliminated and others drastically curtailed. They also agree that responsibility for the ultimate priority decisions lies with the city council, except for those instances where both a program and the level of service for that program are mandated by other authority.

They recognize that priority decisions can't be based solely on the public popularity of an activity or on its relative cost.

Criteria for priority consideration are:

- a. Is it mandated by law?
- b. Is it cost-effective?
- c. Is it essential to life and safety?

There is no easy way to make service priority decisions. Efforts to date have included program categorization on the basis of degree of local authority or of importance to life and safety, and staff ranking of activities within each program area on the basis of perceived importance to the mission of that particular department. Differential decisions between departments and programs will require the vigorous involvement of at least three forces: the city's management team, the elected governing body and citizens of the community.

Individual self-interest, the pressures inherent in a complex society and the frustrations of an inflationary spiral are causing certain American citizens to blame others for their plight. Government, at all levels, is a convenient scapegoat. Media emphasis on negative news is understandable, because, we, as readers, tend to relate to the sensational. Any effort by government to directly publicize a positive image is written off as bureaucratic self-perpetuation. When public employees look to their employers to counter this generalized stereotyping, they find that the political process causes those seeking office to echo the popular theme of "elect me to get in their to clean up the mess".

Many citizens believe service reductions are unnecessary retaliatory actions by public administrators in response to Proposition 13. Managers feel that in order to retain credibility, service cutbacks should be accompanied by visible overhead and staff reductions.

The bulk of the public believes that expenditure-reductions under Proposition 13 can be accomplished without significant service reductions. Public criticism of cuts falls on the rank-and-file employees who deal directly with the public. Those employees are already concerned about job stability, diminished career advancement opportunity and a mounting public antipathy toward them that is fueled by continuing inflation, media criticism and political rhetoric. Increasing disenchantment with public employment careers and continuing high turnover of marketable employees is anticipated state-wide.

The Legislative Analyst, State of California, in a report dated October 1979, compared actual pre-Proposition 13 (1977-78) expenditures with post-Proposition 13 (1978-79) budgets as follows:

	<u>EXPENDITURE (dollars in millions)</u>		
	<u>Actual 1977-78</u>	<u>Budgeted 1978-79</u>	<u>Percent Change</u>
California Counties	\$ 8,103	\$ 9,090	+ 12.2%
California Cities	4,816	4,978	+ 3.4%

The report concludes: "Our analysis indicates that most local governments did not reduce expenditures in 1978-79 below 1977-78 levels, although sizable cuts may have occurred from the budget levels proposed prior to passage of Proposition 13. Instead, local governments tended to utilize existing reserves, federal revenue sharing and CETA funds.....and state fiscal relief to offset the effects of revenue losses on service levels. Many local agencies also reported that they were able to maintain service levels through the deferral of capital projects and equipment acquisition".

The June 1980 CPER Magazine quotes the following employment comparisons from the Employment Development Department:

Wage and Salary Workers in California Government  
in thousands

	<u>March 1978</u>	<u>March 1980</u>
County Government	240.6	228.1
City Government	205.3	185.9

It's important to note that these figures represent persons employed, and not full-time equivalents.

The above data and the interviews conducted indicate a continuing tendency toward tight staffing ratios and expenditures growing at a much slower rate.

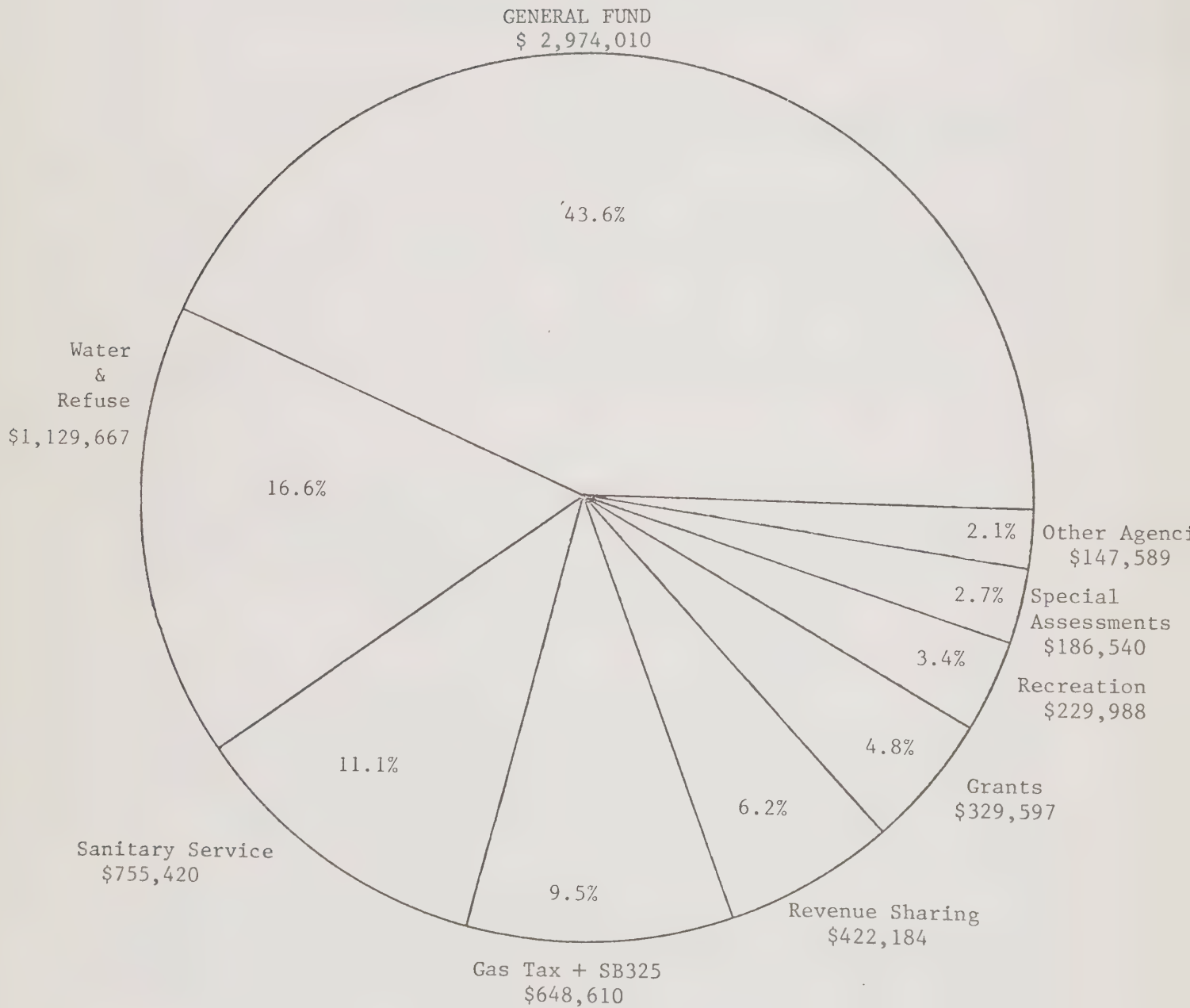
The extent and costs of state and federally-mandated programs should be made known to the local taxpayer, along with some means for the taxpayer to express service priority views for transmittal to state and federal legislators.

Service costs of local government should be identified in a manner the taxpayer can understand (e.g., the cost per transaction rather than total workload, etc.). To the extent possible, added costs due to qualitative factors such as ecological protection, affirmative action and civil service should also be made known to the public.

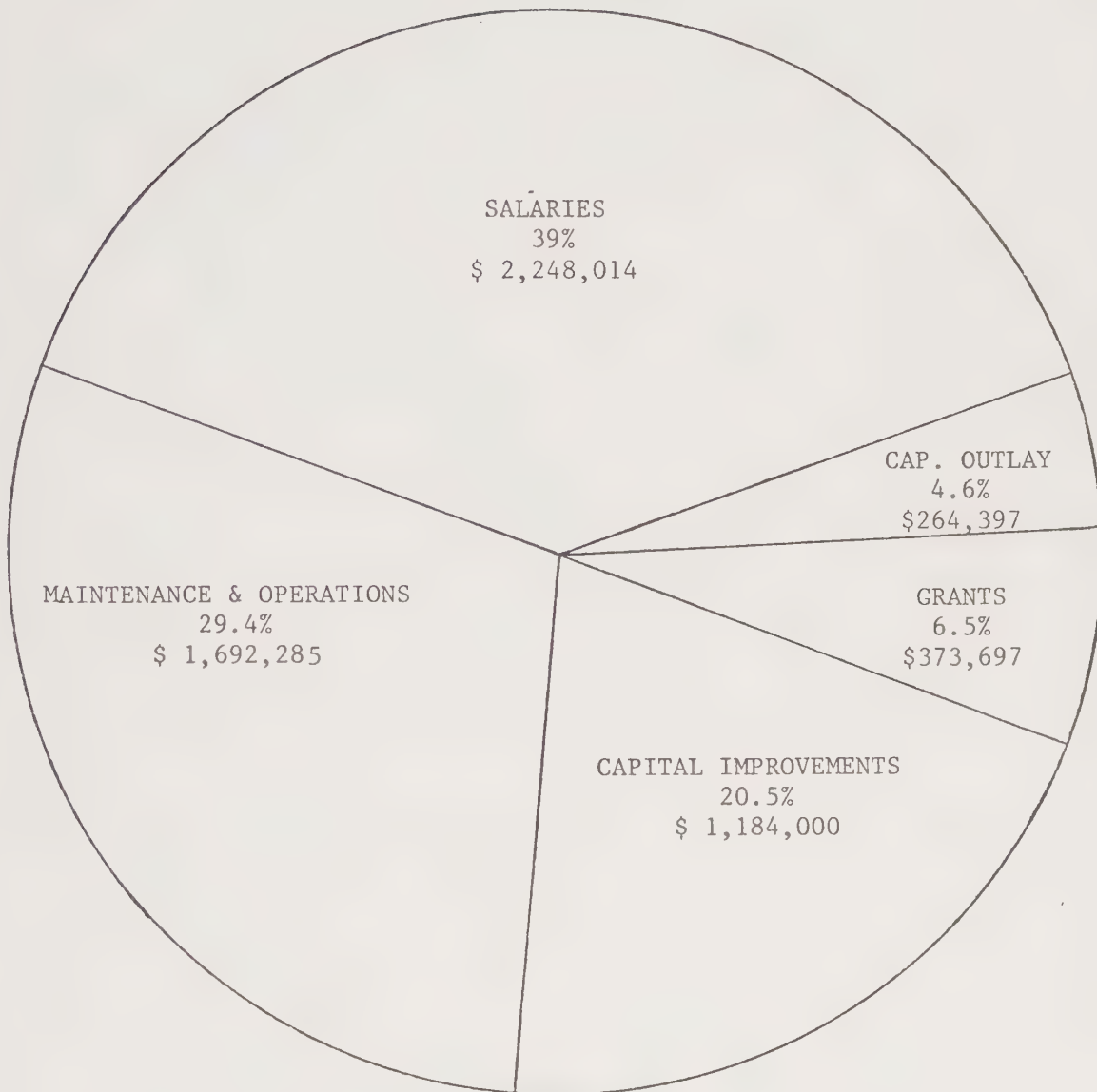
Perhaps the general public image of government can best be improved through greater involvement of members of the public in the government process, so that they better understand the true state of affairs and feel a personal stake in the image presented.



ALL ESTIMATED RESERVES & REVENUES  
BY  
MAJOR AREA

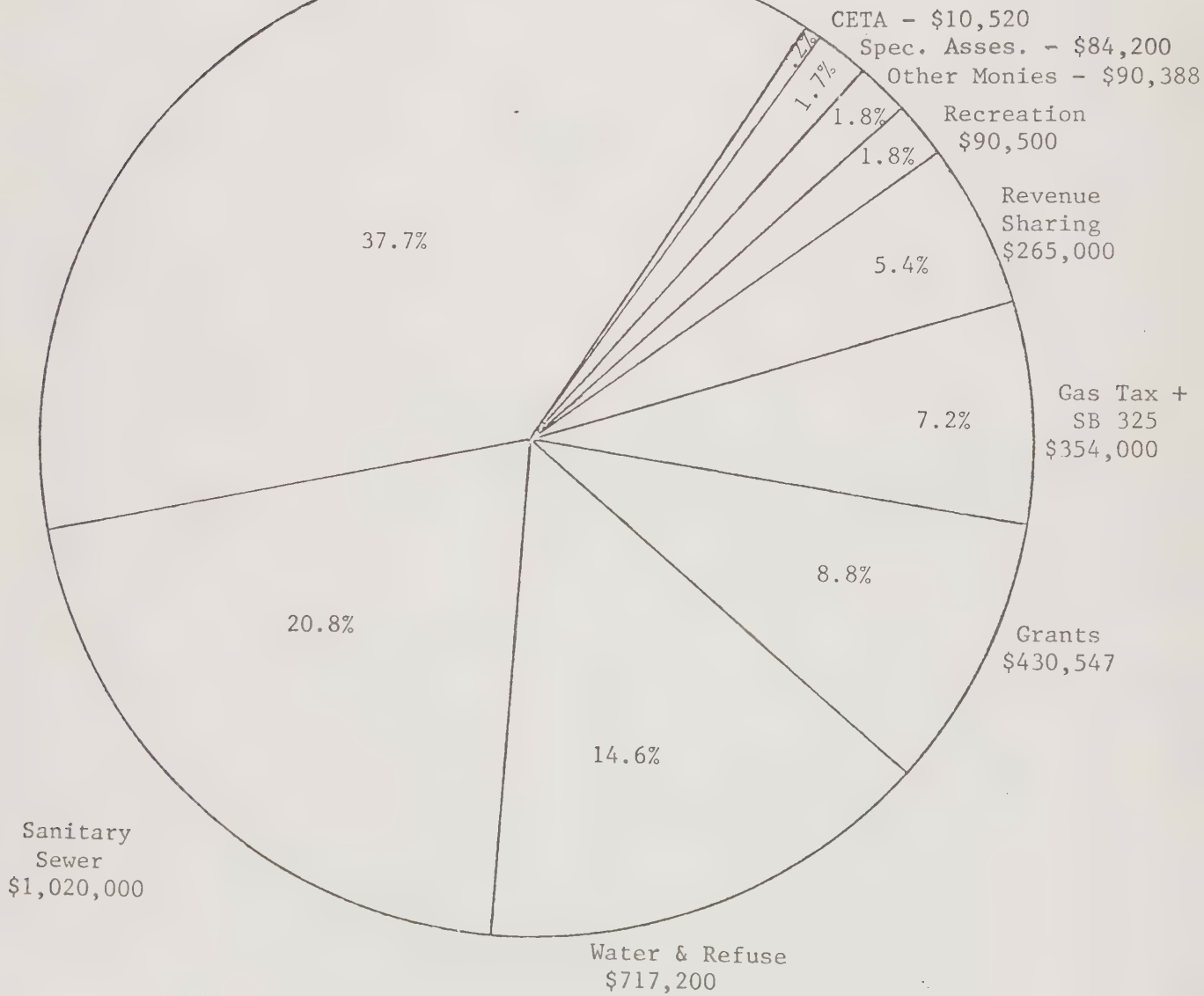


OVERALL DISTRIBUTION OF EXPENDITURES



1981-82 ESTIMATED REVENUES  
BY  
MAJOR AREA

GENERAL FUND  
\$1,848,981



## COST-REVENUE VS. COST-BENEFIT ANALYSIS

With the passage of Proposition 13 in 1978 and the Gann Initiative in 1979, Atwater must now face what many agencies have found difficult, if not impossible - living with fewer revenues and spending less. This necessity becomes all the more urgent because pressures will continue to mount to provide host of services expected of government. As resources become scarcer, decisionmakers will need to depend even more heavily on analyses of the costs and benefits of political decisions.

Currently, cost/revenue and cost/benefit analyses are the two most common methods. Cost/revenue, the more basic of the two, compares the costs of all services that specified public agencies provide to a given area to the revenues produced by that area. It is frequently called fiscal impact analysis. By contrast, cost/benefit analysis is a more sophisticated tool which compares not only the fiscal, but also the economic, social and environmental costs and benefits of various land uses. As a result, it measures the less tangible effects of a land use decision, such as design, displacement of population or uses, or equal opportunity, as well as the tangible, fiscal effects. The problem comes in the fact that it is difficult to assign dollar values to many of these costs and benefits.

Cost/revenue or cost/benefit analysis essentially compares the various effects of different land uses. Both methods reduce the land uses to units of measurement, such as acres, household units, or population, in order to provide a common basis of comparison. Without this common, consistent basis for comparison of alternatives, decisionmakers cannot evaluate the results. One factor that makes them particularly complicated is the process of attributing costs, revenues, and benefits. At times, for instance, it is difficult to determine precisely how many people will move to the study area as a result of the project. Therefore, it is difficult to determine whether the jurisdiction will need to build new schools and expand



fire and police protection. Similarly, it may be difficult to determine how much new employment will result from a project, making any computation of revenues all the more troublesome.

Another complicating factor is the level of accuracy desired: it is relatively easy to pinpoint the major direct costs, revenues, and benefits of a land use or project, but the measurement of secondary or indirect (often called "spill-over") costs, revenues, and benefits can be difficult, time-consuming, and costly. Beyond a given point, the cost of the analysis itself begins to exceed the benefits derived. Most jurisdictions find it convenient to establish levels of analysis, the most perfunctory for routine projects, the more elaborate for projects that may affect particularly critical public services (such as schools) or sensitive parts of the environment (such as a rare habitat), and the most elaborate for projects involving many critical public services and a large land area.

Finally, all studies must use either average costing or marginal costing. The choice rests with decisionmakers and it involves important considerations of policy. Average costing takes the average per-unit cost of serving existing development and projects this cost to the new development. If it costs \$.08 a gallon to treat wastewater city-wide, the new development will be expected to pay the same rate. This approach can have a serious drawback: what if the existing wastewater treatment plant cannot handle the sewage from the new development? The city would need to build a new plant. But, who would pay? Under the method of average costing, the entire city would pay for the plant through higher rates.

Marginal costing considers the actual cost of serving the new growth. If the existing plant cannot handle the effluent from the new development, the system of marginal costing would assign the costs of a new treatment facility entirely to the development. The same holds true for other public services, such as schools, police and fire services, roads, and lighting. Practically speaking, it may be unreasonable to expect a new development

to absorb the entire cost of new facilities, especially if the new capacity will exceed the incremental need generated by the development. At this point, the decisionmakers can use the information from the analysis to determine what the jurisdiction should pay and what developer should contribute. This discussion may also lead to a modification of the project to avoid the necessity for a new facility.

Whether using average costing or marginal costing, it is important to understand that in the long run, the differences are essentially equalized. However, it may be helpful in a major analysis to include both average and marginal cost figures, since short-run differences can be great.

Cost/revenue and cost/benefit analysis have a variety of applications to land use planning, including the measurement of the effects of:

- . Alternate zoning or general plan land use designations;
- . Specific proposal for development;
- . Public works projects; and,
- . Redevelopment projects.

The analysis can be tailored to evaluate a specific project and its alternatives. Beyond this, a local agency can establish a continuing procedure or model to provide a reliable stream of information on a wide range of issues. Depending on the desired complexity and the amount of time and money an agency has to invest, such a model can be either manual or computerized.

Planning and Redevelopment Agencies are using cost/revenue or cost/benefit studies mainly for the following reasons:

- . Pressure to allocate dwindling fiscal resources more rationally.
- . Mounting cost of providing capital facilities needed to support development.
- . Growing awareness that capital investments relating to certain land uses, such as parks, carry with them significant long-range operational costs.
- . Increasing staff skill in and understanding of the mechanics and nuances of cost/revenue and cost/benefit analysis.
- . Availability of computers to aid in setting up cost/revenue and cost/benefit models and in evaluating alternatives.

### Summary

Cost/revenue and cost/benefit analyses are receiving increased attention and use by planning and redevelopment agencies in California. Cost/revenue focuses on whether a land use "pays its way", that is whether tax or other revenues from the land use exceed the costs of providing services. Cost/revenue analyses, however, cannot determine whether a land use is appropriate; instead, it is only one of many contributions to decision-making.

In contrast to the relatively straightforward process of cost/revenue analysis, cost/benefit analysis is a much more complex tool, measuring not only fiscal impacts but also economic, social, and environmental factors. Because of the difficulty of choosing and measuring all significant costs and benefits, cost/benefit analysis generally demands considerably more technical expertise than does cost/revenue analysis. Nevertheless, both tools can and will continue to play important roles in making land use decisions.

The General Plan Review Committee discussed the cost of new developments to the existing community at length, and voted to recommend the following:

To urgently recommend to the City to acquire a computer model as soon as possible in order to make cost-benefit, cost-revenue analyses on all applications and the General Plan, and to use it in overall comprehensive community planning framework.

Service and capital improvement requirements of areas to be annexed should not impose undue burden upon existing city taxpayers, and should be approved only if cost/revenue and cost/benefit analysis should justify it. Benefitting property owners should pay the cost of the necessary improvements.





# **INFRA - STRUCTURE**



#### IV. INFRA-STRUCTURE

##### A. CIRCULATION

The Circulation Element's primary function is to facilitate the movement of goods, services, and people in and around the City. Without a properly evaluated and integrated circulation system, the proposed Land Use plan might not be implemented.

A good classification plan calls for a network of streets that integrates commercial and industrial development, schools, parks, residential areas and highways. In effect, it supports land use objectives and at the same time provides improved traffic circulation.

Some of the factors involved in designating streets for appropriate systems are the travel desires of automobile, truck and transit users; the access needs of adjacent land development; the network pattern of existing streets, and existing and proposed land uses.

A street classification plan should reflect the location of traffic generators, the amount and location of through traffic movement, and the access needs of abutting property. In evaluating these factors, consideration must be given to present and future requirements for traffic and land use plans in the area.

The preservation of neighborhoods by diverting through traffic should also be a basic objective. Collection and distribution of local traffic within a neighborhood, as well as access to abutting property, has to be provided by a collector street system which interconnects through traffic arteries with local access streets.

The purpose of the system reflects whether speed of movement or direct access to property is the main service requirement. Movement or access should be obtained with maximum safety. Accident rates are an index of



safety, and are one of the factors used to adjust operational controls and design features on each system.

The objective for circulation and transportation is maximum freedom, safety and economy of movement for individuals and goods consistent with the desires and needs of the community as a whole, and to protect minor streets in residential areas from through-traffic.

#### General Policies

1. Adequate parking facilities shall be provided in commercial and industrial areas, as well as major centers within the community.
2. Provisions should be made for the development of new transportation modes, especially bikeways.
3. Curbscuts shall be limited, and land uses strictly regulated and enforced to prevent any conflict or congestion of traffic around intersections, along major arterials, freeway interchanges and off-ramps.
4. The local circulation system shall be coordinated with adjacent community, County and State master plans.
5. An "Overlay Zone" shall be applied along all scenic corridors to apply special regulations concerning setbacks, landscaping, signs, and land uses and appearance.
6. A median barrier shall be constructed along parts of the major arterials, in order to prevent left-hand turns and direct crossing of the right-of-way where the traffic situation is becoming hazardous. Trees are to be planted along those medians if they are wide enough.
7. Bikeways are urgently needed and should be given immediate attention.

#### The Street System

There are 6 different classes of streets in our planning area:

Freeway	Expressway	Rural Road
Major Arterial	Collector	Minor Street

Freeway 99 is under State jurisdiction, and is of local interest mainly when interchanges have to be planned or traffic hazards have been created which can be alleviated by the City.

Santa Fe Drive, carrying large volumes of traffic from Merced to Atwater, Castle Air Force Base and Winton at high speed is considered to be an Expressway. The County is presently in the process of widening Santa Fe Drive to a 4-way road, which is long overdue.

Rural Roads are located in the County, but may be inside our City Limits sometime in the future. Camellia is one example, which would be classified a Collector Street when urban developments spread to that area, while Gertrude would become a Major Arterial because the County planned the major roads at one-mile distances.

In the incorporated area we are mainly concerned with the next three classifications. Major arterials have the primary function to carry traffic at relatively high speeds from one part of the community to another. Provision of access to abutting property is a secondary function. Access and intersections with major streets should be limited and controlled so as not to reduce the traffic carrying capacity. Major arterials should be located along the edges of residential neighborhoods rather than crossing through them.

Collectors are the main connection from residential developments to the major streets. They also give access to abutting homes. Intersections need to be designed for good sight distance and safety. The alignment should provide the most direct and convenient route to follow.

All other streets are classified as minor residential streets and their primary function is to give access to abutting property. They should be designed so that traffic which does not have a destination on the street is discouraged from using it.

Most small towns developed a street pattern in days when speed and traffic volume were at a low level and presented few problems. As a result, all streets tended to function at about the same level and there was little or no differentiation. This can make it difficult to develop a functional pattern of streets today, but the concept is useful and necessary in urbanized areas and should be followed in order to correct existing problems and avoid future ones. As money is invested in developing major streets and roads to a high standard, policies should be followed which will ensure that the major streets will function at full capacity and not be congested by inappropriate access and uses along it. A problem in Atwater will be to divert traffic which should be using major streets from connective streets and minor streets.

The underlying theme of the circulation element is to create a road network which conserves the needs of motorized traffic as well as non-motorized traffic, pedestrians and bicycles, in corridors which will not necessarily be consumed by wide expanses of pavement. The designated right-of-way should be considered as an area within which to achieve the proper balance of facilities needed for each type of traffic. Generous use of landscaping and trees should be a primary goal of right-of-way development.

#### Major Arterials

The Atwater Planning Area is crossed by County roads which form a logical major road pattern at one-mile intervals, and which become Major Arterials within the urban areas.

Winton Way, Shaffer Road, and Buhach Road, laid out at section lines, are the major north-south streets within the Atwater area. Buhach Road, which now serves mainly as access from the Freeway to Castle Air Force Base, will become the preferable major street as urbanization moves eastward. Four lanes are needed on these roads, with room for bikeways, and median barriers whenever the need arises.

Bellevue Road and Atwater Boulevard will continue to be the major east-west streets. Bellevue Road is shown extended to the Freeway in the west, to create a major interchange that would bring visitors and shoppers from other towns to Atwater and Castle Air Force Base.

### Collector Streets

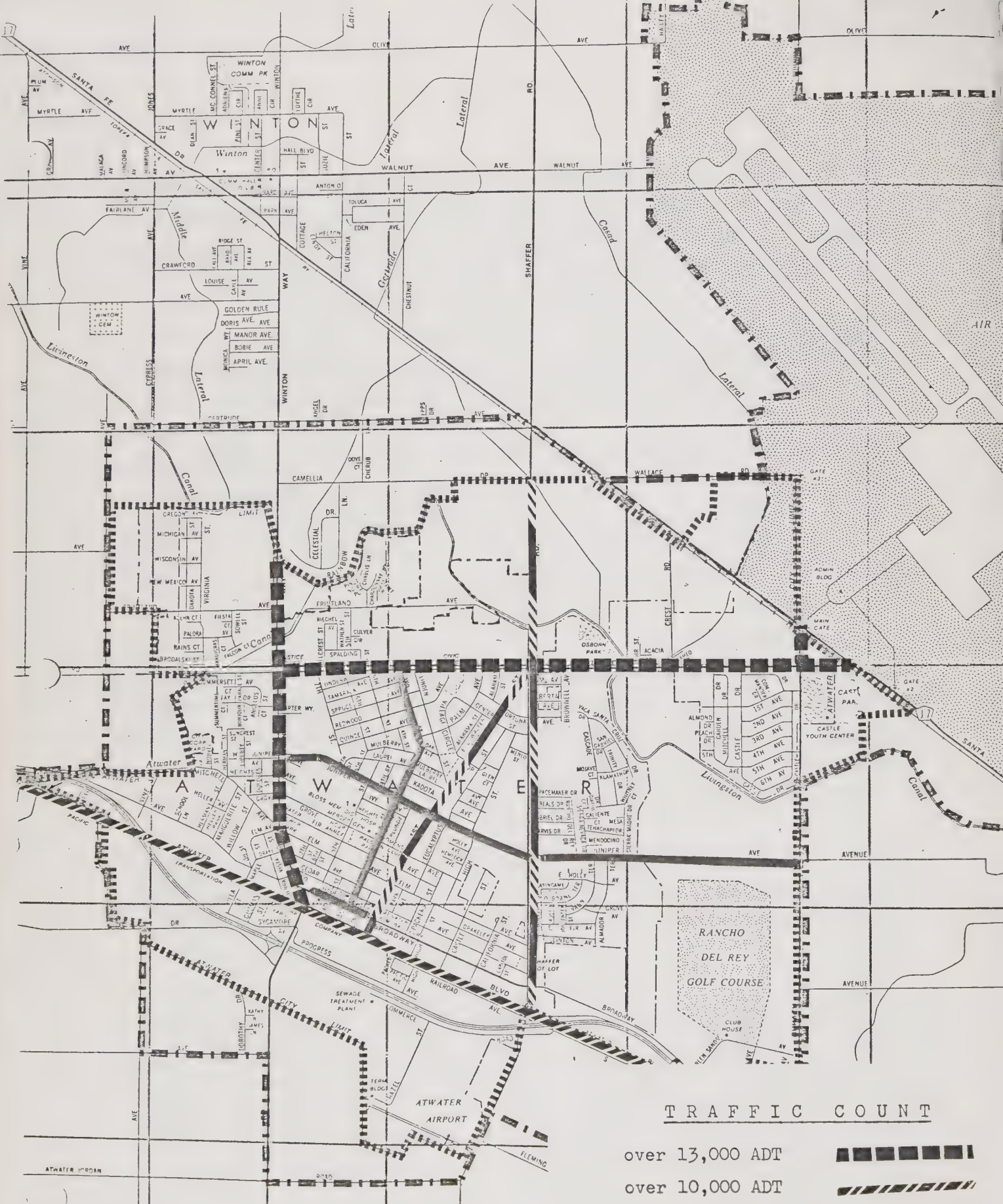
First, Third and Fifth Streets are the main collector streets, connecting the downtown area with the northern part of town. Third Street intersects with Bellevue Road about halfway between section lines, and had been planned to connect Bellevue with Fruitland Avenue since the area was annexed to the City in the fifties. It would provide a good buffer between Elmer Wood Elementary School and the adjacent commercial development, needing a traffic light at the intersection very much at this time already, before adjacent property is developed.

A main collector from the western City Limits to Buhach Road in the east is Juniper Avenue, which changes the name after crossing Buhach and becomes Avenue Two. A traffic light will be needed at the intersection of Juniper and Winton Way when the 25 acres at the NE corner develop. The intersection poses a big safety hazard for school children going to Mitchell Elementary, Junior High and St. Anthony's Parochial School.

When the over 300 acres around Rancho Del Rey Golf Course develop, the intersections of Juniper with Shaffer Road as well as Buhach Road need to be evaluated for traffic lights also.

West of Winton Way, Olive Avenue and Mitchell Avenue serve as collectors, and east of Winton Way it is Broadway and Elm. In the northern part of town, Fruitland Avenue is an east-west collector, and in the Urban Expansion Area, Camellia Drive.





# TRAFFIC COUNT

- over 13,000 ADT
- over 10,000 ADT
- over 5,000 ADT
- over 2,000 ADT

## TRAFFIC

### Freeway Off-Ramps

There are presently four entrances from the Freeway to Atwater: Buhach Road, Shaffer Road, Winton Way, and the westerly beginning of Atwater Boulevard.

All entrances to the City are aesthetically "unpleasing", and the community needs to make beautification of all entrances as one of their highest priorities.

### Scenic Corridors

Scenic Corridors are discussed at length in the separate Element and in this General Plan under "Environmental Issues".

### Redevelopment Area

Existing streets within the Redevelopment Area may be closed, widened, or otherwise modified, and additional streets may be created as necessary for proper pedestrian and vehicular circulation.

### Railroads

The Southern Pacific and Santa Fe Railroads operate lines through Atwater.

Southern Pacific has approximately 67 miles of track in Merced County and some 38 million tons of freight is hauled annually. Approximately 6,550 Southern Pacific railcars either begin or end their trip within the County.

Santa Fe's track in Merced County is approximately 43 miles in length and carries annually nearly 19 million tons of freight. In addition to freight service along this line the National Railroad Passenger Corporation (AMTRAK) operates a daily passenger service. The valley service which began operation in March of 1974 is reputed to be the most promising in the entire AMTRAK System.

### Airport

Atwater Airport, located south of Highway 99 and adjacent to the Atwater Industrial Park, is primarily used for recreational flying. The runway has been relocated and may get extended. The existing runway has been made into a taxiway, and the tie-down area has been enlarged. There are presently about 15 sport planes permanently located here, with a capacity of around 50. A fixed base operator has been hired, lights have been installed, and gasoline is available. The Airport will never become a commercial facility because of the proximity to Merced's Airport.

Because no jet aircraft can land or take-off from the Atwater Airport, there are no noise contours needed. Cropdusting planes are strictly controlled and are not permitted loading or unloading at our facility.

### Pipelines

An important mode in the transportation system is the pipeline. Pipelines are classified by the type of transportation service provided and their total impact on transportation as they relate to the transportation plan. The types of transportation service provided by the pipelines are identified by the following functional classifications:

Major transmission lines transport large volumes of commodities over long distances connecting remote areas of origin with distribution to major storage facilities, model interface terminals and processing plants.

Trunk lines collect commodities within a limited geographic area gathering lines for input to major transmission lines. They provide transport to and between storage facilities, terminals and processing plants within the area and also transport commodities from such facilities to central points of distribution within the region.

Gathering and distribution lines are short, small diameter lines which gather commodities from individual sources for distribution to individual users. They generally feed Trunk or Major Transmission lines which



originated from low pressure distribution to individual users or commercial outlets in the regional communities. The one pipeline affecting Atwater is along Highway 99 from Northern California to Atwater City. This petroleum pipeline is functionally classified as a Major Transmission line.

The impact of pipelines on transportation is measured by the volume of commodities transported for type of commodity, the distance (origin-destination) transported, and transportation costs by unit. Additionally, information relating to the capacities of pipelines, pumping stations and storage and trunk facilities to the interface (terminal facility), and shipping rail and track is desirable, but at present is not available.

#### Road Width Standards

The street widths within the City of Atwater vary according to age of the particular neighborhood. As in most cities, ordinances governing street widths were not incorporated until fairly recently. However, the following standards shall apply for all future right-of-way requirements:

##### Major Arterials:

Minimum of 80 - 100 foot right-of-way with a minimum of 60 - 80-foot paving. Room for median barrier and bikeway shall be planned.

##### Collector Streets:

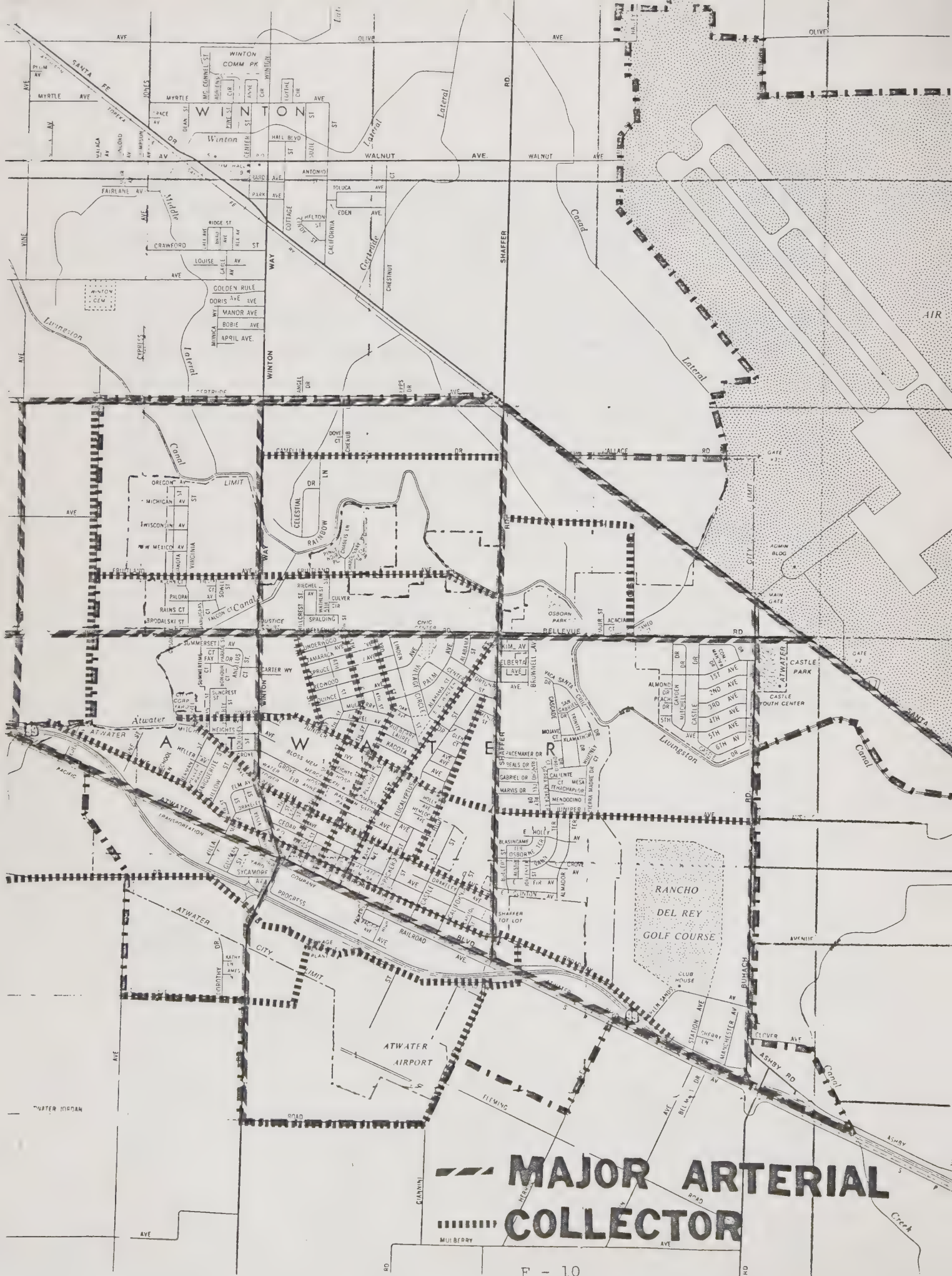
60-foot right-of-way, with 40-foot paving.

##### Minor Streets:

Present subdivision standards are 60-foot right-of-way with 40-foot paving.

In new residential areas a right-of-way between 40-60 feet may be considered.





## B. FIRE SAFETY IN ATWATER

The City of Atwater is a part of the Merced County Fire District. The District has assigned equipment and manpower to the Atwater station in accordance with countywide servicing policies.

The Fire Department consists of seven full-time City employees. One Deputy Chief, three Engineers and three Firefighters. In addition to the personnel on paid status, there is a Volunteer Force of thirty-two dedicated citizens: one Chief, two Assistant Chiefs, one Chief Engineer, four Captains and twenty-four Firemen.

On January 5, 1981, the department transitioned from the 40-hour week, daytime coverage, to the 56-hour week, 24-hour coverage. Exclusive of sick leave, vacation, or other authorized absences, this places two full-time City firemen on duty at all times.

### Training

In the fire department, training is a way of life. By necessity it is an ongoing process which acquaints personnel with new products, methods and materials and the additional hazards they present. It provides for fighting fires in target areas before they happen, and dissecting the ones which have occurred. Personnel must be kept current on new development, water supplies and all existing characteristics peculiar to the protection area. Training and retraining is continuous on such things as tactics, handling hose and equipment, lifesaving and rescue, hazardous materials, report writing, records, street drills, as well as training offered by outside agencies and firms.

Although "Prevention" is becoming the by-word in ultimate fire protection, suppression forces will for a long time to come, be regarded as necessary and vital to the well being of a community.

### Fire Stations

For many years there has been only one fire station in the City, located on Cedar Avenue between 4th and 5th Streets. This particular site is proposed to become a public parking lot for the Downtown Revitalization Area. A new, larger facility will be built in 1981 at the northeast corner of High Street and Broadway as a joint City/County project.

Even though the City of Atwater and the county of Merced recently executed an Automatic Response Agreement, the need for another station in the northern part of the community needs to be evaluated.

### Water Flow

In 1977 a 12" water loop was installed giving a large part of the City sufficient flow for fire fighting purposes.

The ISO, Insurance Services Office, recommended in 1974 that all arterial mains, secondary feeders, and main distributors be strengthened to deliver the recommended fire flows to all built-up portions of the community with consumption at the maximum daily rate. Recommended individual fire flows range from

1,000 gpm in residential districts  
to  
6,500 gpm in industrial developments.

Some areas of the community are in need of improvements in order to meet the recommended flows.

### Fire Insurance Rates

A fire department's needs may be estimated in several ways but in the final analysis, a fire rating bureau makes the final determination as to the resources and effectiveness of the total department.



In 1974 The Insurance Services Office (ISO), conducted a survey of Atwater's fire defenses. Notably the ISO, as their predecessors, The American Insurance Association, The Pacific Fire Rating Bureau and originally the National Board of Fire Underwriters, present an idealistic approach to their concept of adequate fire protection. In many cases, including Atwater's, their recommendations are not always realistic or attainable, particularly in light of limited funding. Sometimes the standards they set border on the impossible, yet they are the final word when it comes to setting the fire insurance rates, based on their findings.

The use of the grading schedule for classifying cities by number is a very complex procedure, and a different method is proposed for the near future. The present grading works as follows:

We are currently a class 5, as a result of the survey in 1974. A class 6 rating is awarded when over 2500 deficiency points are assigned. Atwater was assigned 2477 points, which is 23 points from class 6.

Since the two largest factors influencing the grading are water supply and fire department, obviously these are the ones where improvement is needed. Improvement in the water system has already been started with new wells and the new mains being installed. At this point it is important to remember that unless the fire department keeps pace with improvements in the water system, another factor comes into play called divergence. When the water supply rating exceeds the fire department rating, additional deficiency points are charged. In the list of recommendations suggested by the rating bureau is a paragraph relative to this divergence:

"In order to prevent excessive divergence in relative effectiveness between the water supply and the fire department, it is recommended that improvements be concentrated on fire department features."

Finally, the classification relates directly to insurance rates. The higher



the classification, the higher insurance will go, affecting the business community more than residential as a rule. The City must weigh the costs for improvements versus the cost of increased insurance premiums to the community.

#### Fire Prevention

There are several ways the danger of fire can be minimized. Fire breaks can be constructed between pastures and roadways and large stands of grass or brush can be disked. Atwater residents should pay particular attention to the removal of dry grass and trash from near storage buildings or dwellings. Controlled burning of agricultural waste should be conducted with adequate supervision and advance planning. Persons may be cited for burning on designated "no burn" days or for failure to obtain burning permits. With caution and foresight some of the heavy losses experienced each summer in the rural areas around here can be alleviated.

#### Safety Codes

Various codes and policies also contain provisions for fire safety. Street Standards relating to width and radius are based partially on the emergency vehicle requirement. The zoning code segregates the various types of uses and specifies development standards based on type of use. Standards relating to building setbacks and separation are rooted partially in fire safety standards. Most of the development standards require installation of fire hydrants where required, but a maximum of 300' apart, or upgrading where necessary and the provision of fire fighting facilities at the beginning of construction or when combustible materials are placed on the site.

Where adequate building separation cannot be expected, such as in existing commercial areas, the building code requires construction techniques which would serve to contain fire and may require other equipment such as sprinklers, extinguishers and stand pipes to be erected. This is also true where hazardous occupancies may occur such as in industrial areas, schools, churches, hospitals, rest homes, etc.

The 1979 Uniform Building Code, and all related UBC publications have been adopted by the Atwater City Council, including the Uniform Code for the Abatement of Dangerous Buildings and the Uniform Fire Code. All of these codes have eliminated reference to Fire Zones in the 1979 editions, and instead regulate minimum construction and safety standards according to the occupancy or use of the buildings.

#### Setbacks of Buildings and Street Widths

At the present time there is no problem concerning setbacks. The rule to follow is that fire fighting equipment must be able to get within 150 feet from any structure, which is possible city-wide.

Flag lots should not be approved.

Street widths are more than sufficient. Section 10.207 of the Uniform Fire Code requires the following:

#### Access Roadways for Fire Apparatus

Section 10.207.(a) Every building hereafter constructed shall be accessible to fire department apparatus by way of access roadways with all-weather driving surface of not less than 20 feet of unobstructed width, with adequate roadway turning radius capable of supporting the imposed loads of fire apparatus and having a minimum of 13 feet, 6 inches of vertical clearance.

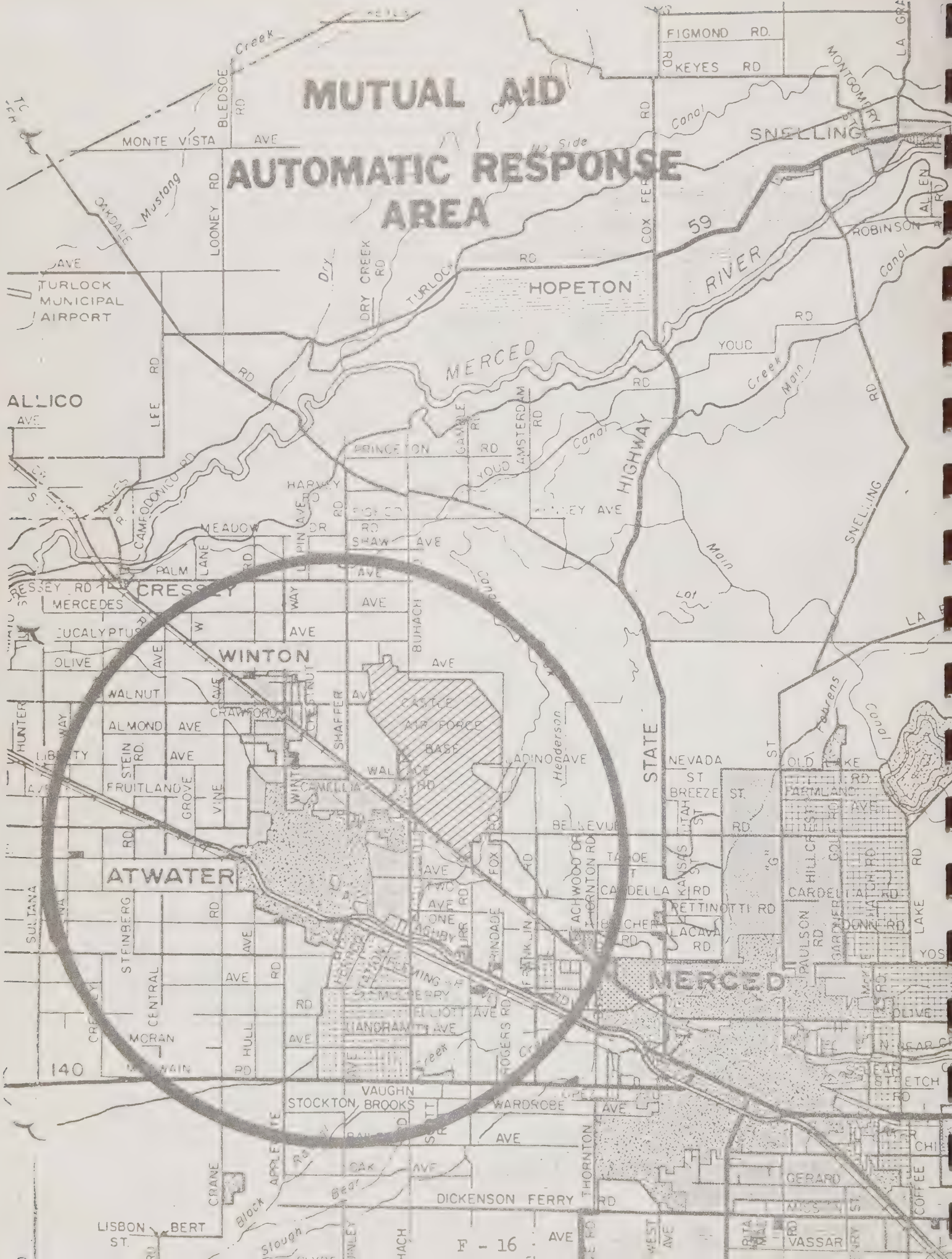
EXCEPTION: When there are not more than two Group R, Division 3 or M Occupancies as defined in the Building Code, the requirement of this section may be modified when, in the opinion of the chief, fire-fighting or rescue operations would not be impaired.

(b) The required width of access roadways shall not be obstructed in any manner, including parking of vehicles. "NO PARKING" signs and/or other appropriate notice prohibiting obstructions may be required and shall be maintained.



# MUTUAL AID

## AUTOMATIC RESPONSE AREA



(c) The access roadway shall be extended to within 150 feet of all portions of the exterior walls of the first story of any building. Where all the access roadway cannot be provided, approved fire protection system or systems shall be provided as required and approved by the chief.

(d) Where fire protection systems approved by the chief are provided, the above required clearance may be modified.

(e) The chief shall have the authority to require an increase in the minimum access widths where such width is not adequate for fire or rescue operations.

#### Premises Identification

Approved numbers or addresses shall be placed on all new and existing buildings in such a position as to be plainly visible and legible from the street or road fronting the property. Said numbers shall contrast with their background.

#### Mutual Aid

The City of Atwater has Mutual Aid Agreement with the County of Merced and Castle AFB.

The signed agreement with the County specifies as follows:

#### "Automatic Response

- A. City Fire Department shall respond automatically to aid County's Fire Department in emergencies and rescue situations located within a three (3) mile distance outside the City limits.
- B. County's Fire Department shall respond automatically to aid City's Fire Department in emergencies and rescue situations within City limits.



#### Mutual Aid with Castle Air Force Base

"This agreement, entered into this 1st day of June, 1980, between the Secretary of the Air Force, acting pursuant to the authority of 42 U.S.C. (1856 (A)), and the City of Atwater Fire Department is for the purpose of securing to each the benefits of mutual aid in fire prevention, in the protection of life and property from fire, and in firefighting.

It is agreed that:

(1) Upon request to a representative of Castle Air Force Base Fire Department by a representative of the City of Atwater Fire Department, firefighting equipment and personnel of the Castle Air Force Base Fire Department will be dispatched to any point within the area for which the City of Atwater Fire Department normally provides fire protection as designated by the representative of the City of Atwater Fire Department.

(2) Upon request to a representative of the City of Atwater Fire Department by a representative of Castle Air Force Base Fire Department, firefighting equipment and personnel of the City of Atwater Fire Department will be dispatched to any point within the firefighting jurisdiction of the Castle Air Force Base Fire Department as designated by the representative of the Castle Air Force Base Fire Department.

## C. PUBLIC UTILITIES

### Wastewater Treatment Plant

The Atwater City Council accepted the reconstructed Treatment Plant for maintenance and operations in the early part of 1980. The City staff was directed at the end of the first year's operation to report as to the Treatment Plant's capabilities as it would relate to operations and growth capacity.

In February, 1981, the existing and committed domestic flows surpassed the designed capacity for domestic flow, and the City was in essence borrowing from the industrial capacity to accommodate operations. The Wastewater Treatment Plant was designated for a total average daily flow of 4.9 MGD. Of this flow, 2.3 MGD is designed for industrial flow with a high organic loading; the balance of 2.6 MGD is designated for domestic loading.

The present flow, as determined from data gathered during 1980, is as follows:

1.	Davis Cannery (industrial)	1.0 MGD
2.	City of Atwater (domestic)	2.4 MGD
3.	Winton Sanitary District (domestic)	<u>0.4 MGD</u>
Total Flow in February, 1981		3.8 MGD

In addition the following flows have been committed:

4.	Contract with Winton Sanitary District	0.1 MGD
5.	Approximately 1000 dwelling units to be constructed on approved tentative maps	<u>0.4 MGD</u>
TOTAL COMMITMENT		0.5 MGD
TOTAL PRESENT AND COMMITTED FLOW		<u>4.3 MGD</u>
TOTAL PRESENT AND COMMITTED <u>DOMESTIC FLOW</u>		<u>3.3 MGD</u>

The City had in February, 1981, already committed for domestic flow 0.7 MGD in excess of plant design domestic capacity. The revised capacity then should read as follows:

Domestic Flow	3.3 MGD
Industrial Flow	<u>1.6 MGD</u>
Total Flow	4.9 MGD

The study also showed that there are some problems in handling the present flow and that there will be additional problems when the design flow is reached.

The main problem involves solids handling. The sludge drying beds, while seemingly ample in area, being on the high side of textbook recommendations, are not capable of handling the sludge from the present flow. The beds are evidently constructed on hardpan and have very little percolation.

One of the primary clarifiers does not have an adequate channel for effluent and causes a flooding condition when the flow exceeds 4.0 MGD.

The February 1981 report suggested several alternatives to accommodate this condition as well as provide for expansion.

In June, 1981, the City Council adopted unanimously the policy to expand its Wastewater Treatment Plant capacity to 6,000,000 gallons per day. Distribution of this capacity would be 4,000,000 for Atwater domestic use, 1,000,000 gallons for Atwater industrial use, and 1,000,000 gallons for Winton domestic use.

In order to raise the 2.7 million dollars needed for the expansion, staff was directed to attempt to form an assessment district for the costs and benefits to be distributed as described above. An assessment district is to be used to accumulate the financing necessary to undertake the expansion, as the City is not in a position to financially participate.

### Water System

The water system is very good, and sufficient for the existing population. New wells will be needed for new population, financed through a construction fund. The developers should be asked to donate the sites. Without any restriction, 5-6 MGD of water are being used in Atwater. The highest use is between 9:00 AM - 9:00 PM, and it would help if the people could water their lawn during off-peak hours.

The yearly overdrawal of groundwater in the valley amounts to 1.5 million acre/feet, and a large area of subsidence between El Nido and Los Banos is slowly spreading north.

The water well on the Corporation Yard site had been shut down temporarily, when tests showed 1.0 ppb (part per billion) DBCP. Recent tests were .7 - .8 ppb, which is below the danger level.

### Storm Drainage

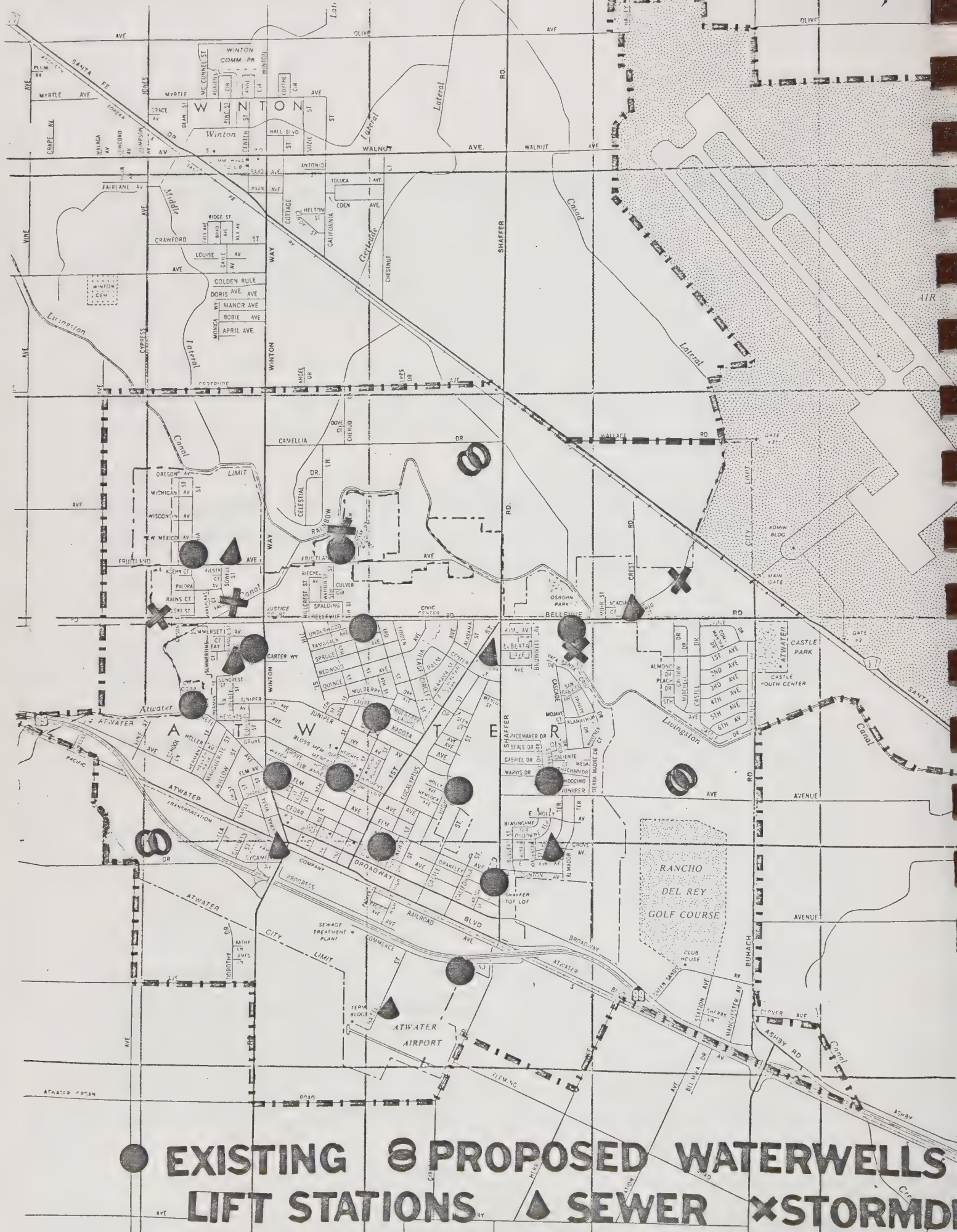
Storm drainage is one of the largest problems the City has. The area south of Bellevue Road, between Winton Way and Shaffer Road, has received extensive improvements in 1980. But more needs to be done. Atwater's storm drains were not built to allow for the rapid population growth and developments as we have experienced during the last four years.

The City is limited by court order as to the amount of storm water runoff it may discharge into the Atwater Drain. One hundred cfs (cubic feet per second) is computed as the amount allowed.

### Electricity

Electricity for residential homes in our area is supplied by Pacific Gas and Electric Company (PG & E). The electricity is generated from the following sources:





● EXISTING    S PROPOSED    WATERWELLS  
▲ LIFT STATIONS    X STORM DRAIN

Fossil Fuel	60 %
Natural gas or low sulfur oil are used depending on the availability of each.	
Hydroelectric	37 %
From PG & E facilities	20 %
Purchased by PG & E from other districts	17 %
Geothermal	2.3 %
Nuclear Power	0.7 %

PG & E's power generating facilities are all tied into a network and therefore no single source of electricity for Merced County can be defined. The PG & E Merced Office serves not only the City of Merced but also Atwater, Mariposa County, and the rural areas in between, including Livingston.

#### Electrical Usage

PG & E data for the total electricity consumed in this service area show the average annual per capita consumption to be 7500 KWH.

PG & E has no projected plans for expansion directly related to growth in Merced County. New developments are serviced on an individual basis and substations are increased in capacity or more substations can be added as needed. Historically, in Merced County, PG & E has not failed to meet the demands of the population, there has not been a black out or reduction in power (brown out) due to lack of available energy.

It must be noted that the available energy even ten years in the future is speculation, although PG & E states that electrical supplies are expected to remain adequate. Another oil embargo before the installation of other sources of electricity could reduce the available energy by as much as 60 %. There is limited expansion possible for hydroelectric power as the construction of new dams in California is not feasible due to the Wild Rivers

Act and lack of available dam sites. One proposed project, recirculating water at the King's Canyon Dam could increase available peak electricity but not the total available electricity. Geothermal sources of power are presently being expanded at the Geysers facility and this could increase available electricity 10 percent. It has been stated that nuclear power implementation would supply adequate power but at the present difficulties with nuclear fission plant technology, radio-active waste and other environmental concerns are delaying plant construction. Technological advances in nuclear fusion plants within the next thirty years may make an inexpensive, ecologically sound source of electricity available. Alternate sources of fuel for fossil fuel plants, such as coal gasification, may also allow more electricity for future use, but creates other problems like acid rain. (See Safety Element)

#### Natural Gas

Natural gas for residential homes in Merced County is supplied by Pacific Gas and Electric Company. The natural gas is from:

California production	25 %
Canadian (PGT)	40 %
El Paso Natural Gas Company	35 %

The quantity of natural gas consumed annually by the service areas is 89.892 cu. ft. per capita.

**DEVELOPMENT**





## THE LAND USE ELEMENT

California Government Code Section 65302(a) describes the Land Use Element as follows:

"A land use element which designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agricultural, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall also identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to such areas."

Required since 1955, the land use element has the broadest scope of the nine elements. By its definition in the above section of the Government Code, it subsumes most of the concerns of the other eight elements, and plays a central role in synthesizing all land use issues, constraints and opportunities. Through text and diagrams it must establish a pattern for land use, and set out clear standards for population density and the intensity of development for each of the proposed land uses.

This land use element should:

Promote a balanced and functional mix of land uses consistent with community values;

Guide public and private investments;

Reflect the opportunities and constraints affecting land uses identified in the other elements of the General Plan; and

Reduce loss of life, injuries, damage to property, and economic and social dislocation resulting from hazards.

### Land Use

A sound land use strategy is the key to any successful effort to insure the achievement of environmental as well as social and economic goals. We cannot hope to really come to grips with the issues of housing, transportation, air and water pollution, of equality of opportunity as well as quality of life, until we begin to devise more effective and democratic ways in dealing with our patterns of growth and development.

Because land use decisions have such an enormous impact upon the quality and character of their lives, the citizens of the area must have a very real voice in those decisions. They cannot be based upon a single concern or criterion -whether it be air quality or economic development. They must, instead, embrace the broad social, economic, and ecological concerns within the area.

Environmental and ecological values have at time been invoked as excuses for blocking the construction of housing for low- and moderate-income families. Communities who have never displayed much concern for sewage capacity or open space needs - as long as the "right" kind of development for the "right" kind of people was involved - have suddenly "got religion" when somebody proposed to build within their boundaries some low- or moderate-income housing.

There are few greater tragedies than to allow "environment" and "ecology" to become code words for economic and racial exclusions - for efforts that in intention or in effect deny or diminish housing opportunities to Americans of modest means. There is, in fact, no inherent conflict between the goals of full opportunity or environmental quality. The apparent conflicts

that do arise under current conditions could be resolved far more readily under a land use approach that can comprehend both, the needs of localities and the needs of a region as a whole, that is concerned with the advancement of special goals as well as with the protection and preservation of natural resources, with the reduction of poverty as well as pollution, with the provisions of equal housing opportunities as well as open space, with the creation of a fully open and attractive human environment as well as the conservation of critical environmental areas - in other words, a land use approach that embraces the broad range of social, economic, and ecological concerns within an entire area.

There can be no question about "stopping" growth and development. Even at the so-called "zero population birth rate" that we have recently achieved, there will be some 50 million more Americans by the end of this century. Moreover, unless we change past patterns of development and settlement, these Americans will occupy increasing amounts of land.

If this prospect alone is not enough to convince us that we need to grow in far more compact and conservative ways, then our energy and environmental concerns must increasingly move us in this direction. Those concerns have combined with gathering force to make us understand that we do not have unlimited room or resources, and that our energy and environmental ills stem essentially from the same course: from patterns of growth and development that waste our energy resources just as liberally as they may waste our natural environment.

A study called "The Costs of Sprawl" - sponsored jointly by the Council on Environmental Quality, The Department of Housing and Urban Development, and the Environmental Protection Agency - shows that the environmental, economic, and energy costs of higher density planned developments are 40-50 percent less than those imposed by the unplanned sprawl that has characterized most of our urban growth.



Planned high density development is not the answer to all our ills, or the only kind of development we can or should have. Our goal should be not to stop growth, but to insure quality growth. Not to diminish opportunities, but to create new ones for the people to live in a decent and healthy environment.

Nobody has a greater stake than rural America in efforts to develop more compact and conservative patterns of growth in our urban areas, and to provide attractive and effective policies to implement them. When we urgently need energy for such basic activities as the production of food and fiber, we can hardly afford to waste such huge quantities of it on the urban automobile. Nobody has a greater stake than rural America in protecting one of our most economically, environmentally and socially essential resources - our arable land and our rural landscape and way of life - from being rapidly swallowed up by urban sprawl.

The time has come for public officials and to add farmland - arable land that is - to the list of scarce natural resources that should be protected as a matter of policy in the United States. This is an effort that might actually unite farmers and the city people.

### Population Growth

After more than a decade of rapid population growth, cities throughout the state are voicing serious concern about the long-range impact upon the total community of continued, uncontrolled growth. Nationally, and in California, the rate of population growth has increased substantially in the last few years, making it realistically possible for cities to ask whether the quality of development isn't far more important than the quantity. Growth has brought about very real threats to the adequacy and quality of water supplies, the quality of our air, and total quality of life in our urban communities.

We live in an environmentally closed system, and the holding capacity of our air, water and land is unlimited. Population is an essential ingredient

in the total environment which includes land use, transportation, water, air, public utilities, schools, etc. Until the last decade, man has reproduced himself with little thought as to the consequences to society. Today we are reaping the effects of such an implicit population policy. Planning must examine growth trend lines with a conscious awareness of the results of such growth, and an awareness of the environmental consequences of alternative trends. The side effects resulting from the technology man has created are having unforeseen effects. Air, water, and thermal pollution, solid waste, radiation, pesticides and noise, to mention just a few.

Cities across the state are looking inward, at what they already have. They are asking: how do we conserve or improve our present quality of life, keep our existing community viable, while allowing and encouraging new development which will help to serve, support, and reinforce what we now have?

#### Individual Property Rights

The vast depletion of our resources, mainly agricultural land and energy, and the deterioration of the environment, is bringing drastic changes to our way of living. Land has always been acknowledged in the rules that govern our society as a commodity, to be used as the owner pleases. Privileges and rights that used to accompany ownership of land are beginning to change. Land - even when privately owned - is seen as a public resource, a fundamental part of the environment, and the environment is becoming a public responsibility.

This change in attitude is now visible in legal, social, financial and planning circles. Its impact on the cities, on the suburbs, on rural land, and on human settlement patterns in this country is growing. The old rules are changing. Trends in land use regulation are making older cities increasingly desirable for redevelopment. Land is being treated more as a resource in which the public has an interest and less as a commodity, even when privately owned. Environmental concerns coupled with new concepts of land ownership rights are changing the legal basis of property rights.

The land use element requires planning to appropriately allocate the various types of property in order to most adequately fulfill the needs of the people over the long range time frame.

It includes establishing the optimum relationship of planning goals and objectives, and physical, economic and social conditions. Included within this element are land use policies and proposals; a description of land uses and their intensities for the planning area; development of criteria and guidelines; description of land use patterns, and implementation of recommendations.

After careful analysis of the economic, social and environmental variables affecting the City of Atwater, and extensive consideration of the relative weight of these three primary factors, a land use plan is recommended which places emphasis on environmental, economic and social determinants.

A major principle in allocating residential land use is to provide for housing and land use densities which fulfill the diverse requirements and life styles of the citizens, yet creates a cohesive urban form. Allocation of accessory land uses to serve such an expected population include open space and recreation requirements, as well as commercial and employment needs. Further, the land use designations take into consideration existing land use and circulation, in addition to being subject to in-depth involvement and scrutiny by an enthusiastic and knowledgeable Planning Commission.

The General Plan provides a framework within which to define the future urban and economic form of the community. As already indicated, the economic character of a community should be compatible with the more broadly defined humanistic and social character and goals of the citizenry who make up the body politic of the community.

A major principle in allocating land use is to provide for housing and land use densities. Based on the land use recommendations integrated through-

out this General Plan, the maximum population of the City could be projected at 32,000 by the year 2000.

## HOUSING

California is experiencing a housing crisis. The costs of owning and of renting a home are both increasing at nearly twice the rate of household income, making ownership impossible for families with low to moderate incomes. Mortgage rates have climbed higher and faster in the past few months than in the last two years. The median price for a new single-family dwelling in California is close to \$100,000, and more and more families are paying a third or more of their incomes for basic housing costs. The housing market is becoming increasingly elitist, and no end is in sight.

The combination of events fueling the situation are complex and intertwined. On one hand, housing costs are being buffeted by a variety of economic forces: double-digit inflation, expensive land prices and soaring interest rates.

At the same time, not enough homes are being built to satisfy demands. For families with low to moderate or middle incomes, the shortage is especially acute. The growing needs of this group are not being addressed by the marketplace because potential buyers cannot qualify for loans at today's prices. The building industry caters to the most profitable sectors and there is little or no profit in building low and moderately priced housing.

Forced to turn to renting, they face more price increases and another shortage. Condominium conversions are cutting deeply into the rental market. Less rental housing is being built because developers fear rent control will not allow them a fair profit. Tenants have no choice but to pay the price, and most of the prices are high.



### Reactions to the Crisis

Builders, developers, realtors, politicians and consumers all agree that the squeeze is on and the outlook gloomy. "Grimsville" is how one building industry executive described it. But that's where the agreement ends. Few problems have proved so sticky or so hard to solve as the housing crisis.

The problems have been simmering for a long time, but they have taken a while to work through the pipeline. People have watched what has happened to housing costs over the past 10 years and a frenzied feeling of "buy while you still can" has prevailed. Home ownership was considered to be worth a few sacrifices, and buyers in the past found ways to adapt to continually rising costs.

Today, thousands of families who would like to move but cannot afford to are staying put and fixing up their homes. The slowdown in new home construction has produced a boom demand for remodeling and home improvement. Remodeling expenditures have almost doubled in the last five years.

Other families have taken off for the hills and solved the housing crunch by building their own yurt, dome, hut or cabin. Local building officials are not happy because the structures do not conform to uniform building codes and the owners did not obtain permits.

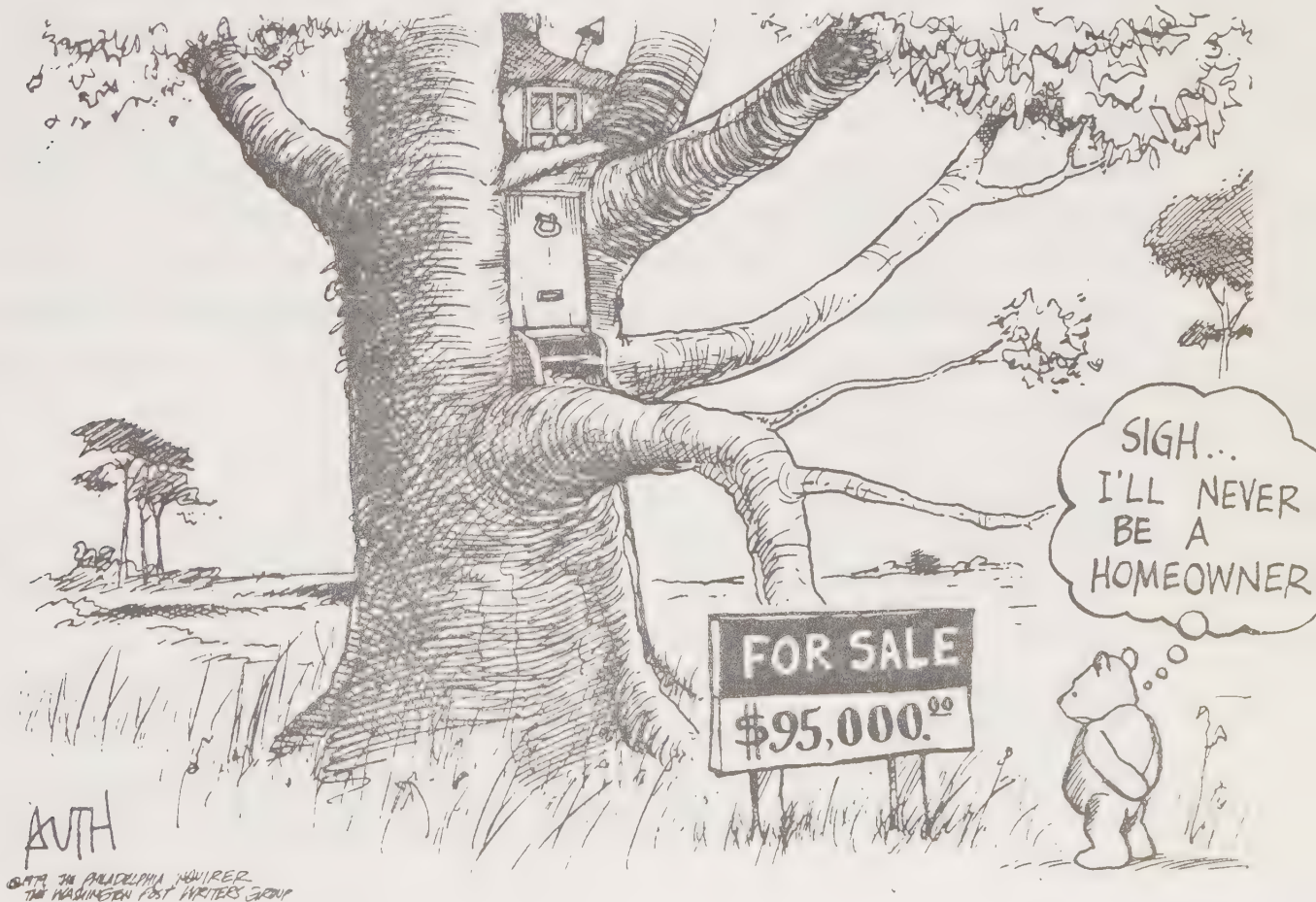
### Horrendous Interest Rates

One major factor behind the crisis is the interest rate. Paul Volcker, Chairman of the Federal Reserve Board, has vowed to stop inflation even if it means "horrendous" high interest rates. Predictions are that rates will jump to 22% annually in the foreseeable future, and that there will be a depression, not a recession, in the housing industry.

Credit is the magic ingredient. Without it, people cannot buy. Inflation and interest rates together have cut into a family's ability to obtain a loan

to buy a home. The most telling effect is the increase in monthly mortgage payments. An example: A \$50,000 mortgage at 10.25%, the rate three years ago, had a monthly payment of \$448.06. At 13% the payment increased to \$553.10. At 16% the buyer faces monthly payments of \$673.38. The person who would qualify for a loan at 10.25% may not qualify at 16%.

The building industry has responded by switching to profitable types of construction. Non-residential construction exceeded residential during December, 1979, for the first time in five years. Security Pacific National Bank reports that non-residential construction accounted for nearly 51% of total building throughout the state. Banks, hotels, motels, restaurants, offices, shopping malls and professional buildings pace construction, while home building continues to decline as inflation and high interest rates eat into the market.



### The Land-Use Issue

The building and real estate industries point to land prices as a major chunk of today's housing costs and lay the blame on the land-use and growth policies of local governments. More and more, communities are trying to plan growth by setting minimum acreage requirements or by limiting the number of units that may be built in a year. Robert Judd, Director of the Office of Appropriate Technology, believes communities ought to plan growth. "It's the difference between managing change and being victimized by it."

Probably the most promising approach to cutting costs and the least acceptable to the public is higher density. Higher density means smaller lots. If local governments are going to do anything to help housing be more affordable, they've got to stress higher density.

Currently, the average density in California runs four to five units per acre. Higher density -- eight to twelve units for example -- means less urban sprawl into valuable agricultural land, shorter commuting distances at a time when fuel conservation is a must, and fewer costs for extending such services as sewers and sidewalks.

Another approach is to revitalize existing cities and suburbs: "in-filling" pieces of land that are, in most cases, already served by sewers, water, sidewalks, streets and other public services.

### The Process

One obstacle to the building of more affordable housing is the permit process. The amount of red tape developers must go through is extraordinary. CBIA estimates that the land development process in California takes from 85 to 135 weeks. This is before construction begins. Assembly Speaker Leo McCarthy and several other Assembly Democrats have introduced an 18-bill package aimed at cutting housing costs, including a bill designed to speed up local processing of construction permits by cities and counties.

Yet streamlining the permit process can be treacherous. While it is true that the building industry needs relief, it also uses the argument to avoid environmental regulations. And streamlining is difficult to accomplish. The state makes the rules and the local communities enforce them. Proposition 13 cut back local government income; with fewer personnel, it takes longer than before to check developer's plans.

#### Smaller Homes, Fewer Amenities

Some developers are already taking the initiative to reduce construction costs. There is a trend toward smaller homes with fewer amenities. One builder questions the rationality of installing a built-in range that ends up being paid for on the installment plan for 30 years. It would be less expensive for the family to buy their own range. "We're going to strip the house down," he says. "I'm already doing it --making everything optional. I'm designing houses with less square footage so the buyer can add another bedroom later."

Necessity also dictates that housing--especially the low and moderately priced--should become more modular. There is a strong new push for more "manufactured" housing - modular units, new kinds of mobile homes. Currently there are quality-control problems with factory-built homes, but builders believe it is only a matter of time before the bugs are worked out.

The legislature recently eliminated restrictions on the placement of mobile homes, barring local governments from discriminating against mobile home location. The transport of 14-foot wide mobile homes on California highways has also been approved. (The state previously had a 12-foot limit).

#### Realities of the 80's

The housing crisis may well be here to stay. No one knows where prices will stop or what people will do. A metaphor sums up the scene: The housing situation can be characterized by an empty stage. A lot of



people are trying to write the play, a lot of actors are waiting to go on, but no good scripts have appeared.

At the core of the dilemma is an unwillingness to accent the unpleasant realities of the 80's. Central to the housing problem is the tenacious and peculiarly American belief in homeownership, in having your piece of the turf. Even the destructive aspect of continued urban sprawl has not dampened this desire. The American Dream still hasn't adapted to the reality that the supply of land is limited, the frontier is gone. Land is finite, as are oil and other resources. Even without inflation and high interest rates, it would be foolhardy to go on filling up the land with quarter-acre ranchettes. Today's economic pressures may finally force us to stop doing what we shouldn't be doing anyway.

#### Atwater's Planned Development

To create a balanced community, all citizens must have access to housing in a style, location, and price range to meet their needs. Neighborhoods must offer a variety of housing opportunities in terms of both, cost and size. A mix of densities, developed as Planned Unit Developments or Planned Communities can promote needed balance in a neighborhood by allowing different family types to live in close proximity. Residential services such as parks, recreation and schools must relate logically to the neighborhood they serve.

Mobile homes can effectively help to meet the housing demand and must be considered as part of the housing mix. Mobile home parks must be of high quality and will be reviewed against carefully developed standards which include location, density, and site design criteria.

High- and medium-density residential developments should be located to take advantage of transportation routes and proximity to centers of employment and shopping. They should also be used to create a transition in land use from commercial to low-density residential.

To accomplish this direction, a plan must be developed which provides for a range and variety in housing types and densities with criteria for their appropriate location. The plan will also include areas suitable for residential development and will place priority on those lands within the urban limits which are currently vacant or under-utilized.

### Conversion

There are 3 types of ownership after conversion: a condominium project, a community apartment project, and a stock co-operative. Although there is a legal difference in those 3 kinds of conversion, the results are similar in that individuals obtain ownership rights to units which were once owned as a single property.

The conversion of rental apartments into any of those 3 projects could have several economic and social consequences. The City should strictly enforce previously adopted regulations, to prevent hardship caused by displacement of families having minor children, elderly, handicapped, or low-income tenants.



Dear tenant: Congratulations! We're 'going Condo' and that means that you can now own your own apartment! Please visit our sales office soon. Don't forget your \$20,000.00 down payment and \$3,000.00 closing costs. Have a happy day!

— The Management

## Manufactured Housing

There is tremendous pressure from the State government and the manufactured housing industry to gain acceptance among local governments, housing developers and consumers of manufactured housing as an efficient and economical means of providing single family homes. This occurs at a time when new housing is scarce and home buyers are frustrated by high prices and higher interest rates.

To some extent, this pressure amounts to an advertising campaign launched by an industry wishing to expand, and seeing an opportunity to do so. As with most advertising, any claims should be scrutinized before they are accepted as fact. Unlike most products, however, manufactured housing can meet a major and fundamental need of society -- shelter. It is not a luxury or a frill or just one more variation of a gadget which is already saturating the marketplace.

Because of its almost unique status in the world of manufactured goods, it is important for government and the public to be open to the idea of manufactured housing as something which can truly help to meet a public need. This openness should, of course, be accompanied by a full knowledge and understanding of the facts about the nature of the product.

As a result of sheer economic forces, communities can expect to find increasing demand by developers to use manufactured housing and increasing willingness by consumers to buy manufactured homes. The manufactured housing industry has committed itself to work with local communities in single family neighborhoods. The challenge will be for communities to accommodate these market forces in an objective, constructive and balanced way, and to work with the industry toward the achievement of a common goal -- providing housing for people.

Manufactured housing is a wave of the future. It is not the only answer to the nation's housing needs, and it is not without problems itself. But prospects and opportunities are good and the time is right to become in-





HUD Code Homes are available in various configurations and sizes, as well as different levels of grade quality. They are applicable for installation in one story, split level, full basement or other configurations for varying lot widths, lengths and slopes. Texture and style can be made compatible with single family detached homes.

Atwater requires: placement on a foundation system; home must be certified under the National Mobile Home Construction and Safety Standards Act of 1974; two enclosed off-street parking spaces; must have minimum of 20 ft. width, min. of 18 inch eave overhang on all 4 sides, roofing material and exterior siding compatible to single family homes, specified in detail in the Atwater Municipal Code and Ordinance C.S. 473.





Another Mobilehome

formed and get involved and help guide the course of this new wave.

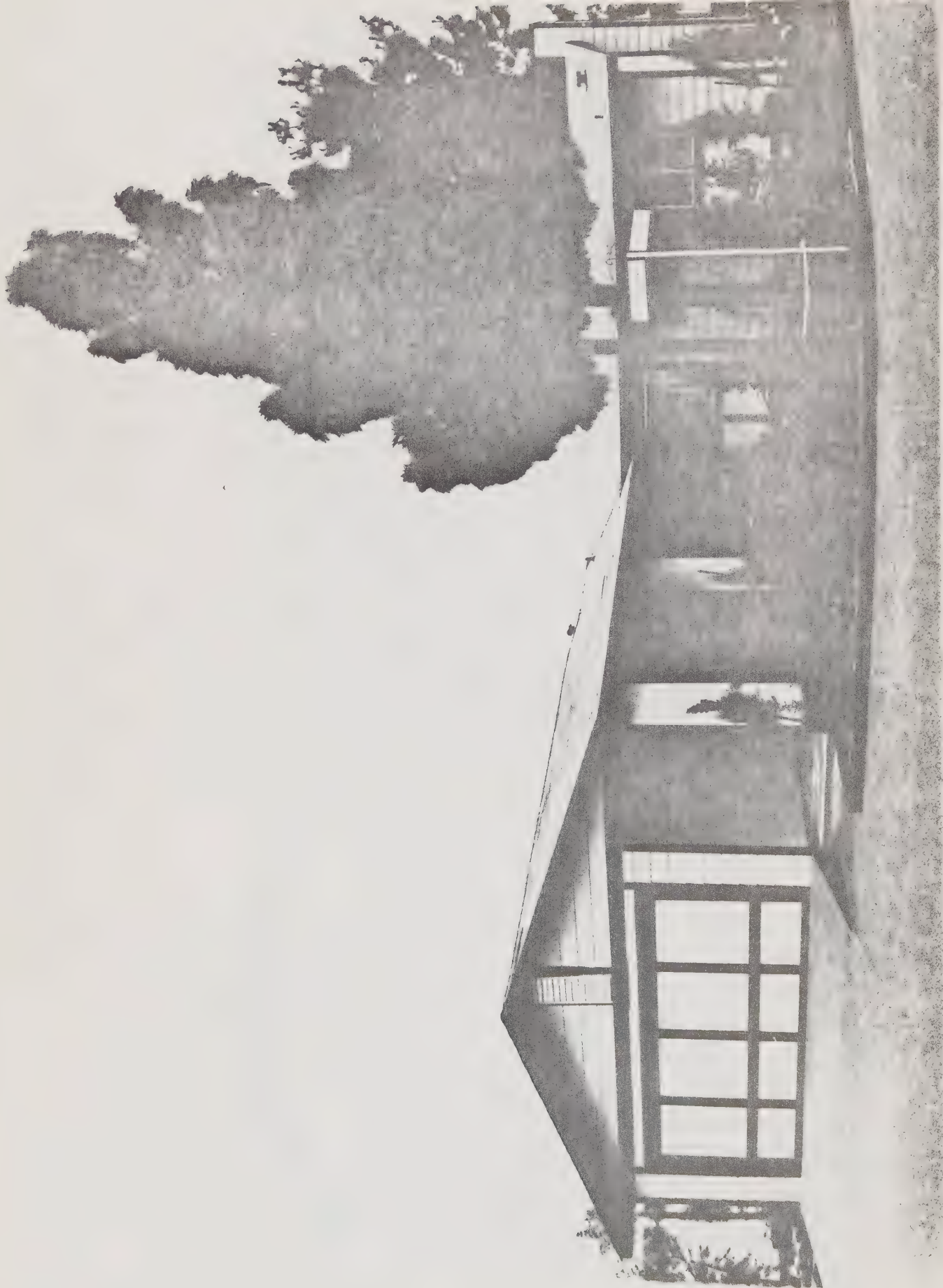
Last year, legislation relating to mobilehomes in single-family residential zones was enacted by the Legislature. SB 1960 (Rains) (Chapter 1142 of the 1980 Statutes) becomes effective July 1, 1981.

While the City may not prohibit the installation of mobilehomes (manufactured housing) on foundation systems on lots zoned for single-family dwellings, SB 1960 does specify that such installations may be subject to certain other requirements applicable to conventionally constructed single-family dwellings.

City officials have raised many questions regarding mobilehomes--manufactured housing--factory built housing--prefabricated housing. Roger Anderman, Director of Community Development for the City of Salinas, prepared a question and answer report: "The Manufactured Housing Alternative--Questions and Answers for California Communities". It addresses the questions which are most often asked about manufactured housing and is attached in the Appendix for the public's information.

### COMMERCIAL

The proper zoning of commercial or business districts is still a subject of considerable debate and experimentation. Perhaps the worst fault of many early zoning ordinances was the practice of overzoning for stores and other business uses. Property owners had the idea that if their lands were so zoned, they would be developed for commercial purposes and would be more valuable as a consequence. City officials thought that the best use that could be made of the frontage of all major thoroughfares and some of the minor ones was for business; civic boosters urged that plenty of space be left for business expansion. The net effect was the creation of rundown slum areas, since large land areas were zoned for business and the adjacent lands were sterilized, inhibiting productive use. No property owner would spend much to improve residential property in an area zoned



A Mobilehome



for business, due to lack of protection against his neighbor. There simply was not enough demand for business property to use all the land zoned for business enterprises, so existing properties gradually deteriorated while their owners waited in vain for a commercial purchaser to appear.

Only about two to five percent of the total developed area of an average city is devoted to commercial uses. This amount is divided among the central business district, neighborhood shopping centers and other districts scattered throughout the city. While off-street parking requirements for new commercial centers will raise the total space requirements somewhat, close examination should be given to any zoning ordinance that provides a markedly greater amount of land for commercial purposes than five percent of the total.

Possibly the greatest problem in commercial zoning today is the location of neighborhood and regional shopping centers. Due to the success of some of these centers, a boom has developed, and many real estate developers are eager to follow the trend. From a planning point of view, there is frequently little basis for choice between a number of locations for a shopping center.

At the same time, it is obvious that even complete service of all the natural trade area will not furnish enough business to support a center at every possible location. The planner hesitates to provide for too many shopping centers, because several partially developed centers in fierce competition with one another will not be so desirable for the community as one or two thriving centers.

At the same time, it is difficult to designate in advance any specific location as the only shopping center district, because this amounts to giving the lucky property owner a monopoly. A number of jurisdictions have resolved this dilemma by spelling out in their ordinances the conditions under which an area will be rezoned for shopping center purposes and by



placing the burden on the applicant to demonstrate that his tract meets these conditions. The city and county of Denver is one of many jurisdictions, experiencing rapid suburban growth, which reports success with this technique.

In the older zoning ordinances, it was customary to provide for a central business district, which might be subdivided into a retail business district and a wholesale business district; and for neighborhood business districts. The latter were designed for business such as grocery stores, drug stores, self-service laundries, and similar convenience goods establishments serving particular neighborhoods. This breakdown of business districts is still probably the most common, especially among small and middle-sized cities. The draftsman should be particularly careful, in preparing regulations for neighborhood business districts, to ban business of a type that will be detrimental to residential properties in the vicinity by reason of excessive noise, light, or night operation.

From the standpoint of economic compatibility, uses are broken down into retail uses, service uses (gas stations, theaters, and so on), and commercial uses (auto sales, small manufacturing operations, and so on).

Under this arrangement, service stations, warehouses, wholesale houses, and similar uses may be banned from retail districts, not because they are considered obnoxious in any way, but because the marketing specialists observe that they are "dead spaces" that tend to break up the pattern of pedestrian shopping from one store to another.

In small cities, it will also be useful to establish separate districts for professional offices and service agencies such as funeral homes. They serve as buffer areas between business districts and residential districts and also serve as transitional uses for old residences bordering existing business districts.

Another useful type of district is a highway service district for service stations, motels, restaurants, and similar business.

Some ordinances prohibit residences in business districts, largely as a means of discouraging premature application for rezoning from residential to business classification. Questions have been raised, however, as to whether it is desirable to eliminate apartments over business establishments in which owners and sales people can live. On balance, it would seem that with the provision of adequate off-street parking, this mixture would be a wise one.

Light manufacturing, operations such as bakeries, watchmakers, shoe repair, repair shops and oculists, are also customarily permitted in business districts, subject to restrictions on the maximum number of employees, the maximum horsepower used in machinery, and similar factors governing the size of the operation. This avoids the inadvertent creation of manufacturing zones.

#### 1. Strip Commercial Areas

Strip commercial zoning and development along major streets is so universally condemned today that it is easy to forget why it was originally applauded. In the early days of zoning, strip commercial zoning represented a considerable advance because it was the first attempt at separating commercial uses from residential uses.

The defects of this land use pattern became apparent as cities spread out under the influence of the automobile, and major street mileage increased. Most major streets had only spotty commercial development. The strips became lined with mixed uses and vacant lots. Scattered houses along them were undesirable because they were mixed with commercial uses.

#### Strip Commercial Usage vs. Grouped Concentration: Which Serves the Public Best?

Various statements have been presented from time to time as justification

for strip commercial zoning. Probably the most popular statement suggests that all major streets are business streets and are unsuited for residential purposes. On the other hand, the statement is made that strip commercial usage of land should be avoided, but seldom are the reasons fully explained.

The following is a list of the more obvious disadvantages of strip commercial usage:

1. Speculation and inflated land values result in a large amount of dead or unproductive vacant land.
2. The mixture of homes and commercial uses that normally accompanies strip commercial development depreciates the land for both purposes.
3. Strip development on both sides of a busy street makes pedestrian crossing difficult and hazardous.
4. The additional traffic generated often results in:
  - a. The necessity to make street widenings, requiring purchase of expensive commercial frontage;
  - b. Vehicles turning into and out from any access points interrupts through traffic and creates serious traffic hazards;
  - c. Complication of off-street parking.
5. In many instances, businesses are of a marginal nature and add little to the tax base of the community.
6. Strip commercial uses are at a definite disadvantage when competing with grouped commercial concentrations.

The following table compares the advantages of grouped concentrations and

the disadvantages of strip or scattered commercial uses. It is felt that the factors below very definitely favor the grouped concentration over strip development from the communities, the shopper's, and the business-man's standpoint."

"Strip" zoning has become a curse upon the urban environment. Through-traffic on highway arteries does not mix with the ready ingress and egress for the parking and service needed for shopping districts. Submarginal business enterprises, blighted houses, acres of weed patches on unimproved lots stretch along the streets zoned for business and have created a state of build-in blight from which we can hardly recover for generations. Even though corrective zoning measures were undertaken at once, it would require a long time for transition; zoning is not retroactive and the investments based on current practice must run their course before effective improvement can be realized.

Factors Favoring Grouped Concentrations  
Over Strip or Scattered Commercial Uses

Factors	Strip Development	Group Concentrations
Economic Land Use	Linear, uneconomic use of land. Single use parking and longer alleys	Compact, economic use of land. Multi-use parking and shorter alleys.
City Wide	Strip development requires the consumer to use the streets to get from one shop to another.	The consumer uses special internal walks designed for his convenience and safety.
Effect on Real Estate	Strip development usually has a depressing effect on contiguous residential land. Contiguous vacant areas tend to be held for speculation in the hope of increasing values. This makes immediate development forbidding. The vacant lots grow up in weeds,	Grouped concentrations can segregate themselves with a buffer strip. They can stabilize surrounding uses and make the area more attractive for residential uses. The compact arrangement reduces



	again having a blighting effect on nereby residential and commercial development.	the perimeter and makes buffer areas possible.
Customer Drawing	In a strip development, the only attraction of the business to the consumer is its own goods and services.	The combined goods and services of the stores in a group concentration attract customers.
Pedestrian Danger	Strip development increases vehicular and pedestrian traffic.	Most vehicular and pedestrian traffic is segregated.
	Haphazard location of driveways increases the points of conflict on busy streets.	Points of access can be limited and better designed.
Community Services	Scattered locations present a more difficult and expensive problem of providing necessary police and fire protection and other community services.	Police and fire protection and other community services can be more efficiently and economically rendered.

### Overlay Zone

Arterial streets form the basic circulation network which moves people and goods from one part of the community to the other. They also serve as entrances to the city from other areas.

The primary purpose of the arterial street is to move traffic. A great deal of tax money is invested in each arterial for this purpose. When businesses are placed in a "strip", on separate lots, with individual entrances or driveways along the arterial, the street can no longer do its job. Traffic conflicts and congestion take the place of the free and efficient flow which each citizen has a right to expect.

The traffic capacity of arterial streets must be protected by not allowing "strip commercial" development and by controlling access. Instead of "strip construction", land uses must be clustered on larger lots with common access and parking to reduce traffic conflicts and improve convenience to the public.

When the arterial street serves as an entrance to the community, the adjacent development should present a lasting and attractive atmosphere. A variety of building setbacks with substantial landscaping to be viewed from the street, a mixture of land uses, building design control, and strict sign control are methods for promoting this image.

A "combining" or "overlay" zone for properties adjacent to arterials shall be developed to effectively control the appearance and design of development along the major streets. The "overlay" zone would be applied to the full length of all lots fronting the arterials and will incorporate other policies of controlled development.

Regulations controlling site design and location of drive-in facilities are also needed to assist in protecting the function of the arterial streets. Improperly located drive-in uses can create a hazard along the street for both, pedestrians and cars. Restrictions controlling the number and location of driveways are necessary and shall be adopted as soon as possible.

## INDUSTRY

Industrial districts at one time were regarded as dumping grounds, as far as the zoning ordinance was concerned, and all land that could not otherwise be classified satisfactorily was put into an industrial classification. Today, it is recognized that prime industrial land is a relatively scarce commodity which should be identified and preserved. To compound the problem, industry now needs more space than formerly, due to a change of design from multiple story plants to single story plants and because industries are now required to provide adequate off-street parking for workers' cars. Many firms also wish to have an appropriate setting for their plants, complete with generous setbacks and landscaping.

A major step toward the preservation of industrial areas is the banning of

residences in these districts: this makes sense both for the residential property owner and for the industrialist. If it is detrimental to a residential district to introduce an industry into its midst, it is far more detrimental for isolated residences to be situated in the middle of an industrial district. Additionally, if industrial property is once divided into residential lots, the probability is that it will never again be used for industrial purposes because of the difficulty of reassembling the land. Even scattered residential owners in the area will interfere with industrial operations by demanding that the plants reduce the noise and fumes that may be incidental to their normal operations. Finally, the municipality may be forced, by reason of the residential development, to locate schools in unsuitable locations.

On the other hand, if the property owner has to wait too long before an industrial purchaser for his land appears, he may be able to persuade the courts that the ordinance has deprived him of any beneficial use of his land. This means that the amount of industrial space preserved must be based on a realistic appraisal of present and future demands.

Most zoning ordinances provide for two classes of industrial districts; light manufacturing and heavy manufacturing, although it is becoming more common to see additional special purpose industrial zones. In general, the distinction between the two is based on the degree of noxious effect usually produced by a given operation, that is, the amount of noise, smoke, odor, dust, vibration, and glare that the public has come to associate with each industry. The regulations themselves merely list permitted or prohibited industries by industry type.

#### Balanced Land Uses

Commercial uses also play an important role in creating a balanced community. Each person can support a given amount of commercial development; there is a direct relationship between people and business floor space.

An imbalance in the supply in favor of commercial activity can be costly to the community. When businessmen find that the market is saturated, and profits are low, there is little incentive to maintain or improve their properties or even to stay in business. Excess commercially zoned land lies vacant, planned developments are left incomplete, buildings deteriorate, less desirable uses may enter the area, and the entire neighborhood is affected by the decline of its commercial component.

If the imbalance is in favor of the population support, people are forced to go elsewhere to spend their money for goods and services.

In order to assure that the proper balance is maintained, market studies are required to show the need for new floor space, and to show that there are enough persons to support both the existing and proposed commercial floor space.

Beyond economic feasibility, the city must also be concerned with the advantages and disadvantages of the proposal to the community.

When considering new commercial developments, the planned center concept is preferred. Such centers must be part of and appropriate to a well-planned neighborhood unit, and their size and character must realistically relate to the size and character of the neighborhood. Priority will be given to the completion of existing centers rather than the establishment of a new complex, unless it will draw shoppers from a completely different neighborhood.

Future commercial development must be of the highest quality attainable, in order to improve the environment and appearance of the city. Commercial facilities must be arranged in compact architectural groupings to produce visual harmony, and to facilitate the movement of people and cars.

Highway service commercial uses such as motels, restaurants, and service stations are appropriate only in areas where they will not be detrimental to



COMPARISON OF BALANCED LAND USES  
as a percent of total developed area

<u>Land Use Category</u>	<u>Segoe<sup>1</sup></u>	<u>Webster<sup>2</sup></u>	<u>Bartholomew<sup>3</sup> Satellite City</u>	<u>Urban Areas</u>	<u>Average</u>	<u>Average Atwater<sup>4</sup></u>	
RESIDENTIAL	40.0%	40.0%	41.98%	27.99%	37.5%	48.0%	50.0%
COMMERCIAL	3.0	2.0-5.0	2.54	2.65	3.0	9.1	9.0
INDUSTRIAL	7.0	10.0-15.0	7.86	5.64	8.2	9.9	8.0
PUBLIC	50.0	52.0	47.62	53.59	50.8	33.0	28.0
(includes railroad property, streets, parks, other public and semi-public)					Urban Reserve	5.0	

- Sources:
1. Ladislav Segoe, Local Planning Administration, International City Managers Association, Chicago
  2. Donald H. Webster, Urban Planning and Municipal Public Policy, Harpers Bros., New York
  3. Harland Bartholomew, Land Uses in American Cities, Harvard University Press, Cambridge
  4. Figures for the City of Atwater do not represent percent of total developed area, but they show the percentage of land zoned inside the City and proposed to be zoned by 2000, vacant or not. Presently, 51% of all commercially zoned land is vacant. This clearly shows that we are seriously over-zoned, with a large percentage of the land vacant.

other established land uses, or to the street system on which they are located.

### INFILL

Many areas of undeveloped or underdeveloped lands exist within the urban limits of Atwater, readily served by basic services and facilities. This land is "ripe" for development or redevelopment. Filling in these islands benefits the community by conserving tax dollars: planned street, water, sewer systems and park facilities can be completed; police and fire protection can be more efficiently provided.

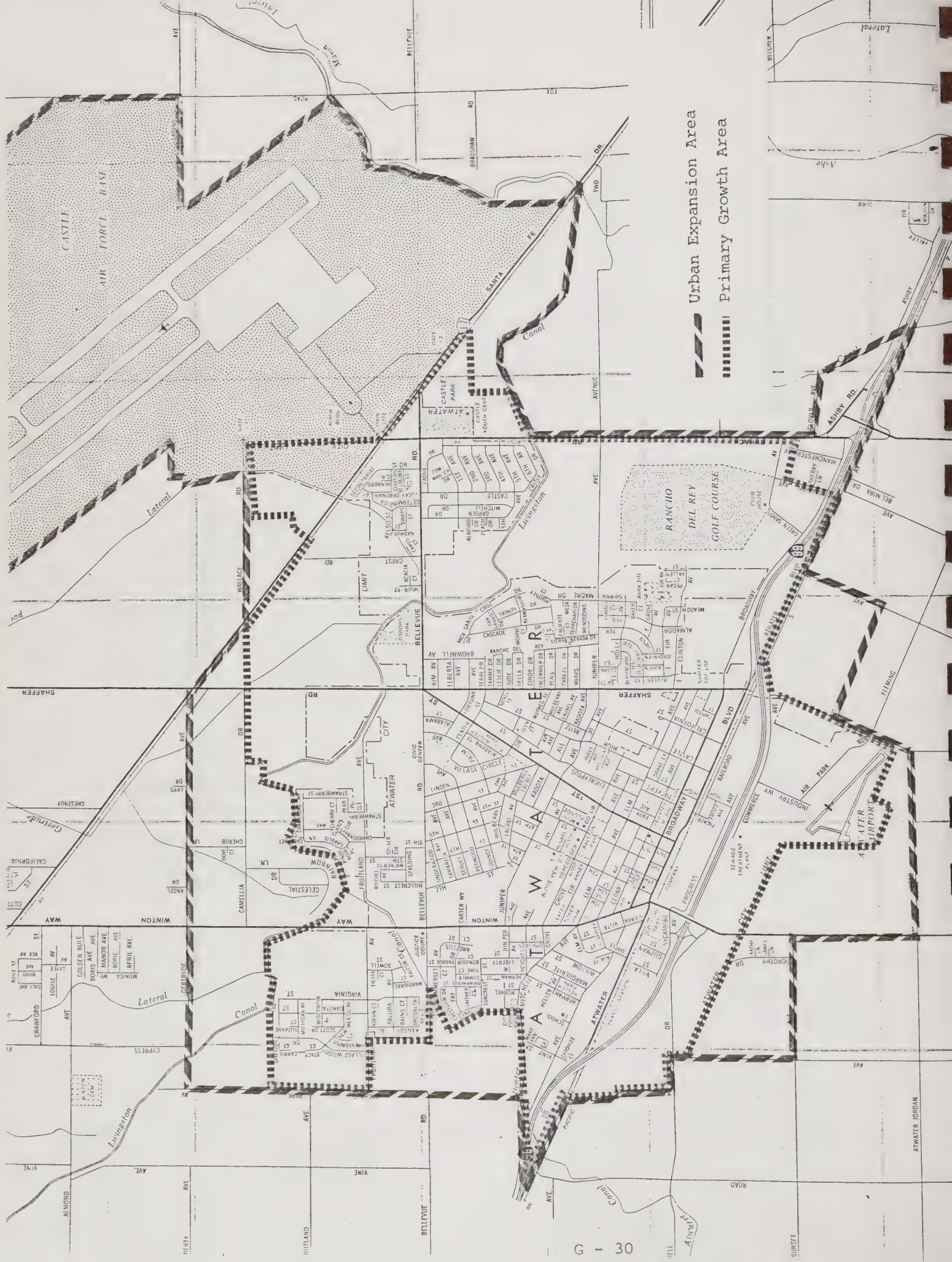
When these areas are overlooked in favor of less costly and more easily developed farm lands on the periphery of the city, the total cost to the community may outweigh any benefits. Extending services through undeveloped areas to reach new development increases disproportionately the costs of such services, when they can only benefit those living in the new development. Until the day when the urban area might surround such development, it will cost the community more each year than other developments within the compact city.

Each time lands outside the city borders are accepted for development, it costs the community dearly in rising need for police, fire and other governmental services. To remain viable, a community must grow from within; older areas must be renewed and vacant areas must be developed.

The filling in of vacant or underdeveloped areas within the urban boundary will assist in protecting our basic industry, agriculture, by reducing development pressures on farm lands and by allowing the prime soils to be retained.

### URBAN EXPANSION

Certain portions of the undeveloped areas surrounding Atwater are local extensions of the urban community and are therefore considered growth



Urban Expansion Area  
Primary Growth Area



areas. Orderly development in these areas will be considered when a proposed development cannot be accommodated by the "Islands" existing within the city, and when such development would be of substantial benefit to the community without imposing undue costs.

Before these lands may be developed, they shall be annexed to the city and it must be clearly demonstrated that the proposed development is necessary to maintain a balanced community and that such development will be of high quality and will complement the existing community.

Annexation of any new land increases the city's obligation to provide services and facilities. Therefore, the benefit to the proponents of an annexation must be weighed against the costs and benefits to the total community. All public services (streets, sewers, utilities, schools, police, fire, etc.) shall be fully available at the the site at the time of development or shall be provided or paid for by the developer. Public funds will be used only when such expenditures will benefit the broader community and not just the particular development.

The annexation process, properly administered, can protect the economic structure of the community by promoting growth from within, and discouraging sprawl. To this end, requests for annexation will be evaluated against the following criteria:

- A. Areas may be annexed to the city only when a specific development proposal has been advanced and the city finds that the proposed development is logical, necessary, and beneficial to the city, and that the proponent has the capability and intent of carrying out the development; annexation will not be encouraged when sufficient land is available within the existing city limits to accommodate the proposed development in a suitable location.
- B. Only areas which are adjacent to, compatible with, and logical geographic extensions of the city limits shall be considered for annexation. Such annexations shall be sufficiently large and of



such shape to "square off" or "round out" existing areas of development or planning area boundaries.

- C. Service and capital improvement requirements of areas to be annexed should not impose undue burden upon existing city taxpayers. Benefitting property owners should pay the cost of the necessary improvements.
- D. No area shall be annexed for which a development plan has not been prepared by the property owner and reviewed by the city.
- E. An E.I.R. (or focused E.I.R.) should be required for every annexation request, including a cost/benefit analysis.

#### Primary Growth Area

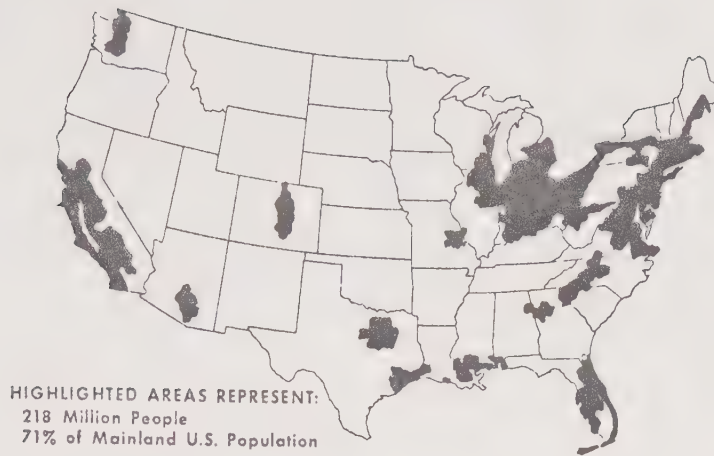
For the most economic and logical expansion of municipal utilities, a "Primary Growth Area" has been established, comprising approximately 970.0 acres. No annexation request shall be accepted for a location not included in that area.

Annexation of Castle Air Force Base shall be an exception to this policy, and may be pursued at any time because no City services are required for that acreage.

#### Growth Control

Atwater never used any kind of growth control, and none is proposed at this time. Soaring prices for houses, high interest rates, and the fact that few people qualify for real estate loans, have put a dramatic stop to the danger of "overbuilding".

Demographer Jerome Pickard, member of the National Goals Research Staff, projected that 71% of the mainland U.S. population will be living in 12 major urban regions by the year 2000. As shown on the following page, the Sacramento and San Joaquin Valleys are projected to become one enormous metropolitan area. We hope that he is wrong, because our diminishing groundwater supply, the water and air pollution that would be added



**12 Major Urban Regions Projected by Year 2000.**

to what we have today, would probably kill many of us before the year 2000. It is of vital importance that we protect our environment and the kind of community we want to live in. Maybe we can prevent that predicted population growth by protecting agricultural lands better, and by keeping agricultural buffers of at least one mile in width to prevent cities from merging into one.



**GOALS**





## GOALS

It is the goal of the Atwater City Council

- To achieve a harmonious relationship between population and our environment.
- To identify potential hazards in the City, and to guide development and land use for the protection, safety, and benefit of present and future generations.
- To promote air quality compatible with health, well-being, and enjoyment of life. To prevent to the greatest degree possible, public nuisance, property and vegetative damage, or deterioration of aesthetic qualities resulting from air pollution contaminants.
- To assure the adequate supply and quality of water to meet the present and future needs of our population.
- To maintain and enhance the present high level of agricultural production, urban health and well-being, and at the same time minimize any harmful environmental impact associated with the use of fertilizers and pesticides by preventing encroachment of urban development.
- To balance social, economic and environmental considerations in land use decisions.
- To respect and protect private property rights, while protecting resources, environment and the safety of the people.
- To introduce safety considerations in the planning process in order to reduce loss of life, injury, damage to property and economic and social dislocation resulting from these known hazards.
- To provide fast, efficient and reliable assistance to disaster victims and also to areas where conditions warrant evacuation of people and personal property to avoid disaster.
- To provide for the highest quality of fire, police and health protection possible for all Atwater residents.
- To reduce the potential of harmful fires throughout the community by making every effort to control all fires at their source.
- To provide adequate supplies of water at appropriate locations for fire suppression.
- To reduce the possibilities of danger and damage from seismic hazards and other geological hazards throughout Atwater to acceptable risk levels.

- Provide an environment that is reasonably safe from uncontrolled hazards involving either the health and welfare of the citizens or loss to the economic base.
- To create the tools necessary to eliminate and/or mitigate hazards prior to the development of the land within the Urban Expansion Boundary.
- To continue cooperation and understanding with Castle Air Force Base, to discourage residential development in the areas covered by noise contours, or, if approved, to require noise mitigating measures as recommended by the Air Force.
- Residential areas should be designed for utility, beauty, safety and tranquility. Special attention should be given to the protection of the neighborhood from excessive noise, through traffic or incompatible or inappropriate uses of land.
- To provide adequate housing at reasonable cost to all segments of the population regardless of income, age, race, sex, ethnic or religious background.
- To conserve and maintain the existing housing stock of the area, and to recognize substandard and deteriorating housing as an urgent problem.
- To promote the provision of housing choice by location, type, price and tenure, with particular emphasis on single-family homes, apartments, condominiums and townhouses.
- To continue to oppose discrimination in housing based on age, race, religion, sex or national origin.
- To comply to the extent possible with identified housing needs of current and prospective population in the area.
- To maintain coordination with area-wide housing policies.
- To support local, State and Federal actions which serve to improve the climate for housing which meets the needs of all income levels and which serves to upgrade the communities as well.
- To retain and redevelop stable residential areas throughout the community.
- To protect low-income families, handicapped people, the elderly, and families with small children from suffering a hardship when a property owner requests conversion of existing apartments to condominiums.
- Beautify scenic corridors to enhance the environmental quality of the

City.

- To make travel along local streets and highways a pleasing and aesthetic experience.
- To improve scenic corridors to move traffic rapidly and safely.
- To improve scenic corridors to maximize the public benefits associated with such assets.
- To economize on the cost of municipal facilities and services to carefully phase residential development with efficient provision for public improvements.
- To establish and maintain a desirable degree of balance among the various uses of land.
- To encourage the concentrate and reinvestment of land uses to prevent urban sprawl.
- To establish an effective open space policy to protect appropriate areas from development, create necessary recreational resources, and prevent premature development.
- To create a zoning code that encourages good planning and design.
- To require planting of shade trees through the City; to:
  1. Improve community appearance;
  2. Provide shade to reduce temperature in order to conserve energy;
  3. Improve the air quality; and
  4. Muffle noise.
- To controll all forms of development in any airport clear zone.
- To discourage urbanization of prime soil lands outside defined urban growth areas.
- The City to support legislation that would require railroads and the Department of Transportation to landscape rights-of-way (at no cost to the City) to help improve the environment within the City's sphere of influence.
- To zone land that has been designated for agricultural uses on the City's general plan exclusively for such uses.
- To keep urban growth continuous to existing urban services and in conformity with the City's adopted sphere of influence.
- To approve any major rezoning and development only by securing ade-



quate open space for public use, and by defining a level of maintenance and who will pay for that open space.

- To protect and enhance the environment of the City through the open space-conservation element .
- To encourage the urban growth of the developing community of Atwater to proceed in a compact and logically expanding form including satisfactory permanent open space areas within the land physically developed.

#### ACCEPTABLE RISK

Mankind learned to live with certain risks every day. A person driving a car or crossing a road is accepting the risk of an accident. If the public is properly informed about what to expect during a hazardous situation in our City, every person will establish a different level of risk he is willing to accept. If a property owner would rather risk damage to his property or injury, instead of investing some money in his building to assure safety, he cannot be forced to do otherwise. However, when the unknowing public is involved, the government has the responsibility and duty to make them aware of the dangers.

"Acceptable Risk" should be viewed simply as those risks which reasonably cannot be reduced or avoided. Risks that can be reduced or avoided are unacceptable -- or should be. The negative term of an "acceptable level of risk" should be put in these more positive words of "an achievable degree of safety".

**POLICIES**



CITY OF ATWATER  
GENERAL PLAN 1981 - 2001

PLANNING COMMISSION

Adopted: November 18, 1981

CITY COUNCIL

Adopted: May 24, 1982





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Resolution No. 483-82, adopting Atwater's General Plan 1981-2001

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## DEVELOPMENT POLICIES

As part of the Atwater General Plan revision, the problems and opportunities of the rapidly growing Atwater area were studied for several months with the assistance of a 40 member General Plan Review Committee. The urgent need for a policy of orderly and balanced growth became evident as a result of these studies.

In response to this need, the City of Atwater has adopted the following development policies which assure the maximum conservation of community resources, while allowing gradual and orderly growth. The recommendations of the Atwater General Plan Review Committee provided the foundation for these policies, and all previously adopted policies included in the individual General Plan Elements have been added to assure consistency.

The policies mandate that new development be evaluated in light of what already exists, so that public funds are not committed to developing areas at the expense of the established community. New development, which would overtax existing streets, water supplies, sewage treatment plant and/or trunk line capacity, schools, open space and other public services shall not be allowed. And speculative development, which the City does not need, and which does not complement existing facilities and opportunities, shall likewise not be allowed.

The policies acknowledge that land is a limited and diminishing resource which must be protected, rather than a commodity to be traded up to its "highest and best" use for strictly private gain.

The Development Policies, as presented on the following pages, will guide the City's future growth and assist in creating a well balanced community where the quality of life is not compromised. Adherence to these policies will protect the community from development which would have a significant adverse effect upon the natural and urban environment.





## A. CONSERVATION AND OPEN SPACE

### Agricultural Land

Agricultural land use should be retained to the maximum amount consistent with orderly growth of the community outside of the existing City limits.

Only those lands within the boundaries of the City should be converted from agriculture to other uses, and only when permanent, fully adequate utilities and services are available, including but not limited to police, fire, schools, street access, parks, recreation, sewer, water and storm drain. As such utilities and services become available, development and annexation adjacent to and beyond the City may be considered.

### Energy

Start a City-wide landscaping program of streets and parking lots, requiring shade trees to reduce the heat.

Consider the possibility of siting future industrial development in ways that promote cogeneration and use of waste heat.

Promote bicycle and pedestrian facilities, encourage public transportation and pooling, to conserve gasoline.

Encourage siting, design and construction of all future residential, commercial and industrial buildings to promote energy conservation and use of solar energy where possible.

Consider retrofitting existing public buildings with solar equipment.

Discourage all future installation of swimming pool heating devices using gas or electricity, but encourage use of solar heating.

Consider narrower residential streets where appropriate, considering traffic to abutting properties as well as emergency vehicles, but discouraging through traffic. Plant shade trees to prevent heat build-up in accordance with the City-approved tree planting and maintenance programs.

Allow mixed land uses to a certain extent for the purpose of avoiding the dependency on automobiles.

Adopt building codes and standards providing for passive or active solar energy systems in the design of all new buildings.

Install sodium-vapor street lights.

Buy energy efficient vehicles for local government use.

Evaluate and possibly incorporate a household source-separation program of recyclable wastes in existing garbage collection service or in coordination with the local schools, Castle Air Force Base, and/or other entities.

To comply with all measures that are included in the Non-Attainment Plans for our area to improve the air quality.

#### Water Resources

Establish and enforce a water conservation program.

Continue to monitor the quality of our groundwater frequently to assure that no water wells will be used that will not meet California State Health Department Standards.

Prevent location of industry in our area which may pollute our water supply, and which cannot be mitigated.

Urge the Board of Supervisors not to permit any more septic tanks in the rural area around Atwater, in order to prevent pollution of our groundwater.

Continue recycling the treated effluent for irrigation and similar uses.

#### Historic Preservation

Listing of the Bloss Home in the National Register was approved by the State Historical Resources Commission, and the same shall be done with the Bloss Memorial Library in order to protect the history and inheritance of the community. Both buildings, as well as the original walkways and layout of the grounds including Bloss Park, shall be kept up and maintained to preserve them for future generations.

#### Parks & Recreation

Upon development, all multi-family residential, commercial and industrial zoning shall have automatic irrigation systems for their proposed landscaping.

Parking lots, parking spaces and driveways shall not count as a portion of the open space requirement.

Commercial and industrial zoned land shall have a minimum of 10% landscaped upon development. The City of Atwater shall, if circumstances warrant, require more landscaped areas, particularly in multi-family development, where a minimum of 30% shall be required.

In multi-family residential, industrial, and commercial zones, upon development, parking lots shall contain landscaped areas with special emphasis on trees at the ratio of one 15-gallon tree from the approved tree list for every 6 parking spaces. Multi-family residential developments of 5 units or more should be encouraged to include a play area suitable for young people, or a passive open space area for adults.



Park site will be needed between Camellia and Gertrude, Shaffer and Winton Way. If this area develops and annexes to the city, it is proposed that a suitable park site be purchased.

The present Rancho Del Rey Golf Course, which is just outside the Atwater City limits should, when the surrounding land is annexed, remain as a viable 18-hole golf course and be listed as open space.

Site plans for park development shall be submitted to the Atwater Area Parks and Recreation Commission prior to approval.

It is recommended that future park sites be acquired in areas of new residential growth as it occurs, including the development of a community park serving several neighborhoods.

Prior to the acceptance of any park site which a developer gives, donates, or develops, these sites shall meet the standards for a fully developed and usable park. Preliminary park site design shall be submitted to the Parks and Recreation Commission for approval before it goes to the Planning Commission.

The ratio of one acre of park land for every 500 people should be applied.

Retain the minimum size requirement for public parks, unless unusual circumstances warrant a smaller size.

The City and School Districts should continue to cooperate closely for the use of playground and recreational facilities.

Whenever possible, parks should be in conjunction with school site dedication.

#### Open Space for the Preservation of Natural Resources

All natural stands of trees, giving habitat to a larger amount of wildlife than usually found in urban areas, should be considered for protection and declaration as open space.

Properties outside the Primary Growth Area, located between the Livingston Canal and Gertrude Avenue, shall keep the same zoning they presently have in the County, but should stay within the presently existing Sphere of Influence. This area, also known as Urban Expansion Area, is not considered for annexation and development at this time. This may be revised as utilities become available.

#### Open Space for the Managed Production of Resources

Pastures, agricultural lands, and areas of economic importance for the production of food and fiber outside of the primary growth areas shall be declared open space and shall be protected from urban encroachment.

Areas required for the recharge of groundwater basins shall be declared Open Space.

#### Open Space for Outdoor Recreation

All existing City parks are declared open space.

The present Rancho Del Rey Golf Course, which is just outside the Atwater City limits should, when the surrounding land is annexed, remain as a viable 18-hole golf course and be listed as open space.

All residential development shall have a certain amount of open space:

1. Single-family residential shall have at a minimum the street frontage setback, and a portion of the rear yard, as specified in the Zoning Ordinance;
2. All densities higher than single-family residential, especially

apartment developments, may "cluster" the dwelling units closer together in order to provide a larger open space area for common use for the purpose of outdoor recreation or playground for children.

#### Open Space for Public Health and Safety

The MID right-of-way shall be kept open space.

PG&E easements under overhead transmission lines shall be kept open space for the protection of the public.

All locations found to pose a danger to the public shall be declared open space.

#### Community Appearance

Atwater should convey the image it wants to convey to all passers-by.

The City shall initiate a program to improve all entrances to Atwater and areas seen from Highway 99.

Entrances to the City shall be developed in a manner that would create an attractive and orderly appearance. Serious consideration shall be given to limited access from adjacent properties with no on-street parking, building setback with substantial landscaping to be viewed from the street, a strict sign control and design review to prevent monotony.

Street trees shall be planted at time of development throughout the City, including all City-owned properties.

The City shall set an example in maintaining a high standard in landscaping and overall appearance on all City-owned properties.

All utility wiring shall be placed underground in all new developments and, as soon as financially possible, throughout the City.







Atwater Boulevard shall have a street renewal program west of Winton Way as soon as possible, which shall include street trees.

Establish a clean-up program, initiated each spring of the year.

The Nuisance Abatement Ordinance shall be strictly enforced.

Enforce the "Dangerous Building Code" to cover all structural deficiencies, deteriorated appearance and hazards which may endanger lives.

Residential frontage roads or dividing medians should be landscaped or have trees planted. Artificial turf should not be permitted.

Heavy landscaping and trees shall be required where houses back onto major arterials. Decorative fencing (including masonry and deviation from straight-line or single pattern wood fencing) may be approved in addition to the landscaping requirement.

No fences higher than three feet shall be allowed forward of the building setback on corner lots. If a side yard abuts a neighboring front yard, the front yard setback shall apply to all fences and structures.

Commercial and industrial sites shall also be required landscaping and shade trees. It should include the trees of their choice, unless that species is prohibited in this City. Upkeep and maintenance shall be enforced.

Automotive repair shops, due to the nature of their business, shall have a fence or hedge to provide screening where needed and trees shall be a requirement.

All railroad right-of-ways should have linear landscaping to serve as a screen to adjoining areas. Oleander does not need much maintenance, and is recommended.

Utility areas should be made compatible with adjoining land uses through provision of landscaping, trees, and fencing.

First Street between Atwater Boulevard and Linden Street shall not be widened. The natural beauty of First Street shall be maintained, and the trees shall be protected.

Special control in the form of an "overlay zone" be applied to all lots fronting on major arterials to assure that proposed developments are an asset to the community, and that they do not adversely affect the flow of traffic. Exits and entrances shall be limited.

All Scenic Corridors to be extended to City Limits, and all entrances to the City shall be included into the mandatory beautification.

A Design Review shall be implemented for Downtown, Industrial Parks, Planned Developments, and any development that requires site plan review. The staff to develop design review standards for approval by the Planning Commission and City Council. Planning Commission and Planning Director to be the Design Review Board. Design review shall be done at the same time with site plan approval, and shall not add additional time to the process.

The building setback along major arterials (except Atwater Blvd. and Winton Way south of Elm) shall be 65' from the center of the street right-of-way. Atwater Boulevard building setback line shall be 25 feet from the property line between First Street and Shaffer Road and west of Sierra Vista to the City limits. From Sierra Vista to First Street, and Winton Way south of Elm, the established setback shall be complied with.

In shopping centers, only one freestanding identification sign may be granted approval by the Planning Commission, under the conditions that it be no higher than 8', and be in a planter or surrounded by landscaping, encroaching not more than ten feet into the required building setback.

Highway oriented uses in close proximity to the freeway may be allowed higher than eight foot signs. All other signs shall be against the building, wall or roof, but not as high as the highest point of the roof. Perpendicular signs, hanging under marquees, etc., may also be permitted.

No fences, hedges, or walls higher than three feet shall be permitted in front yard setbacks.

#### B. SCENIC CORRIDORS

Scenic Corridors are First Street, part of Third Street and Grove Avenue, Bellevue Road, Atwater Boulevard, Broadway, Winton Way, Applegate Road, Shaffer Road, Buhach Road, and all freeway entrances to the City.

The designation of Scenic Corridors that are major arterials shall extend to the City limits and the City Council should ask the County for a similar extension in Atwater's Urban Expansion Boundary as well.

All Scenic Corridors that are also declared major arterials shall have a 65 ft. building line setback from the center of the right-of-way, except Winton Way south of Elm and Atwater Boulevard, which shall be established as listed on page K-10.

Adopt and enforce an ordinance for stringent sign control within the Scenic Corridors.

Continue and encourage to form utility undergrounding districts as rapidly as funds permit.

Stress the importance of good landscaping along adopted scenic corridors.





TO BECOME SCENIC CORRIDOR



Encourage creativity and excellence in the design of buildings.

Residential units should avoid monotony in their appearance. Consider breaking the roof line by mixing 1- and 2-story buildings. Consider split level. Offsetting building setback by three feet either way should also be considered.

Encourage property maintenance, litter control, and street sweeping along all scenic corridors.

Have all dilapidated buildings removed or demolished, unless property owner prefers to improve their appearance. If needed, use Code enforcement procedures.

Incorporate bikeways in the plans for scenic corridors whenever possible.

Limit the propagation of linear commercial development along scenic corridors, except some established locations and as approved with this General Plan Land Use Map.

Freestanding signs shall not be higher than eight feet, and shall be limited to one identification sign per shopping center, except where a center has a minimum of 250 feet frontage along a second street, a second freestanding sign may be considered with the same height limitation. Highway oriented uses along the Freeway should be exempt from this height limitation.

Attached signs are permitted against the wall of the building, under the marquee, in or on the window, under, on or above the eaves, but not as high as the highest point of the roof. Logos shall be encouraged. All signs shall be on-premise identification signs only, except where pre-empted by State Law.

A sign ordinance shall be developed, including an amortization schedule.

Structures fronting on scenic corridors shall be maintained in good condition. The grounds shall be kept free from trash, undesirable growth and other objectionable uses. Frontage setbacks shall be attractively landscaped.

Site plans, architecture and landscaping should be designed not only for an individual project's appearance, but also for a harmonious relationship with surrounding developments. Excellence in landscaping, architectural and construction design shall be especially encouraged within scenic corridors.

Public uses by all levels of government: Federal, State, County and City, should be encouraged within these corridors for the opportunities they offer to obtain total aesthetic control. The responsibility of public agencies to achieve quality in their buildings and grounds is heightened in these corridors.

Measures should be incorporated into the Capital Improvement Program to assure assignment of priorities for implementation of the Scenic Corridor Element.

When installing new or relocating old utility lines along scenic corridors, the City shall consider having them placed underground. Consideration shall also be given to the undergrounding of existing overhead lines.

The allowable size, height, number and type of on-premise signs shall be based on minimum identification needs. Advertising shall reflect a proportionate and orderly appearance in relation to the environment. Design, materials, color, texture, and/or location of sign shall also relate to their physical environment.

Any land use regulations employed for the propagation of the scenic corridor system shall be in uniformity over the entire corridor network

and shall be consistent with the policies of the General Plan. These regulations shall prevent the incursion of incompatible uses which may detract from the scenic quality of the corridor, or from the scenic quality the community is trying to achieve along those routes.

Existing or indispensable offensive land uses shall be screened from view, or inconspicuously located. Effective screening can be accomplished by proper use of planting, fencing, grading, or a combination thereof.

The City shall limit the accesses along these corridors so that the "scenic experience" will be enhanced. Building heights and setbacks shall be regulated to prevent the obstruction of outstanding views. The monotony of uniform setback should be avoided as much as possible, but the "minimum" setback requirements shall always be enforced.

Every effort shall be made to preserve existing stands of trees and other plant materials of outstanding value and to maintain them properly. Vegetation shall be used in lieu of, or in combination with, other screening devices. Special attention shall be given to the retention of vegetative cover as a means of preventing soil erosion and hiding scars on the natural landscape.

An Overlay Zone shall be developed for both sides along Scenic Corridors, covering setbacks, ingress and egress, landscaping, fencing, trees, and overall appearance. Besides the beautification, the major emphasis shall address traffic hazards and safety of the public.

## C. SAFETY

### Air Quality

Street trees shall be required along all streets because they improve air quality. Large shade trees are to be given preference over small decorative trees, where appropriate.

Trees shall be required as a buffer between residential developments for single families and commercial or industrial developments, major arterials, and land in agricultural use where chemicals are being used.

Trees shall be required in parking lots, one 15-gallon shade tree for every six parking stalls.

To lessen the emission of vehicle exhaust, the City should develop in a compact form. Vacant or underdeveloped land inside present City Limits should be developed ahead of new annexations, if possible.

A bikeway system should be developed, considering mainly Atwater High School and Castle Air Force Base as the destination.

Every effort should be made to bring people closer to jobs and shopping.

In commercial districts, apartments may be permitted on the second floor above the business for the following reasons: 1) To reduce the need for the business operator to travel to his home, heat or cool two buildings, thus saving energy and gasoline and preserving air quality and 2) People living in commercial districts would serve as a deterrent to crime.

To continue a transportation system for senior citizens and the handicapped, because it fulfills their present needs.

To encourage car or van pooling between Atwater and Merced College.

To consider narrower streets in subdivisions.

The City should encourage contiguous annexation and development.

The City shall allow industrial development only if it is not polluting the



air, and is consistent with limitations imposed by State and/or Federal air quality standards.

Plant trees wherever possible to improve our air quality.

Population projection for the City shall conform to or be below the regional population projections, upon which the Air Quality Maintenance Plans and Non-Attainment Plans are based.

Encourage bicycle storage facilities in all parking lots.

Standards are to be developed for location and design of buildings, parking lots and streets, requiring a large number of trees to improve air quality.

Planned Unit development zoning should be used as much as possible, to place commercial and service employment centers close to residential areas.

Amend subdivision ordinance to encourage dedication of improved bicycle lanes and/or improved bus stops.

#### Water Quality

The use of septic tanks inside City Limits, or in the Urban Expansion Area, shall be discouraged in order to prevent contamination of ground water.

Because the upper aquifer has been polluted, the City shall cause the disconnection or installation of cross-connection devices to all wells that are not deep enough to reach the lower water-bearing strata.

For the purpose of getting only excellent quality of drinking water, all future city wells shall be deep enough to reach the lower aquifer, because pollution with DBCP, Nitrate and TCE has been found in the upper strata in the Planning Area.

No industry shall be permitted to settle in the Atwater area which poses a possible danger to water or air quality that cannot be mitigated.

#### Toxic Waste

City staff shall contact appropriate agencies in order to learn if and where specific locations of toxic waste are existing in or near the Atwater Planning Area, and whether any danger of contamination to our groundwater exists. Appropriate development policies shall be established where hazards have been identified.

The City of Atwater shall require detailed environmental evaluation concerning toxic waste whenever applicable, and deny any application which would pose a chemical hazard to the community, air, water or soil, which cannot be mitigated.

The City of Atwater shall urge legislative bodies at the County, State and Federal level to adopt and strictly enforce Laws, to prevent irresponsible actions which could endanger our community.

The City deny individual water wells in the Atwater if City water is accessible, and request that the County discourage new wells within the Primary Growth Area.

The City shall continue to comply with State and Federal water quality standards.

#### Pesticides, Herbicides, Insecticides

A buffer should be considered between urban development and land in agricultural use, to protect agricultural land from encroachment, and to prevent any health hazards from toxics to adjacent property owners.

#### Wind Erosion

All vacant land should be planted with grass or similar groundcover, to

prevent wind erosion and deterioration of our air quality. During construction, the ground shall be kept damp enough to prevent blowing dust.

#### Nuclear Disaster

Merced County's Office of Emergency Services is presently developing plans and evacuation routes in case of a nuclear disaster at Castle Air Force Base. They shall be made a part of this General Plan and Atwater's Safety and Seismic Safety Elements as soon as adopted.

#### Fire Safety

No development shall be permitted unless sufficient water flow exists for fire fighting purposes.

### D. SEISMIC SAFETY

#### Groundfailure

Information about the County's Emergency Operation Plan, what to do before, during and after an earthquake, evacuation routes, structural hazards, the role of the City government, and the part of the property owner, should be made available to the public.

As soon as possible after publication, the City Council shall adopt the latest edition of the Uniform Building Code, including the "Dangerous Building Code" and Chapter 70, known as the "Model Grading Code".

Future construction and development practices shall continue to reduce the level of seismic risk:

- Earthquake resistant design, materials and workmanship shall meet at least minimum seismic standards of the current Uniform Building Code.

- Procedures shall be incorporated into the Subdivision Ordinance under which the Building Official is to require soil, engineering, and/or geologic reports where necessary, require compliance with grading ordinance, and inspect post-construction results.
- Special precaution shall be taken to assure earthquake resistant design for public structures and facilities such as hospitals, private schools, high occupancy buildings, communication facilities, bridges and overpasses, and structures for emergency use.

All those existing public structures, or portions of structures, shall be identified which are susceptible to partial or total damage during seismic groundshaking, which has to be expected in Intensity VIII and above in our area.

Property owners of identified buildings should be made aware of potential danger during earthquake-caused groundshaking, and they should be urged to bring their structural deficiencies up to safety standards.

Abatement of any structural hazards shall be borne by property owner. Determination, whether abatement should be enforced and whether it is a "public hazard", be done by the Building Official.

#### Inundation

Plans and evacuation routes developed by the Merced County Office of Emergency Services are hereby adopted and shall be followed in case of inundation.

#### E. NOISE

Every residential or sensitive structure proposed to be located in the City's identified noise contours shall comply with the adopted "Minimum Noise Level Reduction" requirements. (Sensitive structures in-



clude hospitals, libraries, convalescent homes, senior citizen housing, private schools).

The planting of trees is urged as an additional noise barrier.

No property owner or tenant shall operate their radio, television or stereo so loud that it disturbs the peace and quiet of the neighborhood.

The Vehicle Code shall be enforced concerning noise abatement.

No vehicle shall be altered for the purpose of generating more noise.

Vehicles shall not be raced on City streets, nor may engines be revved up to produce excessive noise.

All residential and sensitive buildings to be located in the noise contours above 65  $L_{dn}$  shall be required noise mitigating construction as follows:

- if located between the 65 - 70  $L_{dn}$  contour, the minimum noise level reduction of 25 dB shall be required;
- if located between 70 - 75  $L_{dn}$  contours, the noise level reduction shall be 30 dB;
- between the 75 - 80  $L_{dn}$  contours, reduction shall be 35 dB, but consideration should be given to prohibiting construction of residential or sensitive buildings all together.

#### F. SOCIAL AND ECONOMIC

When considering conversion of rental property to condominiums, the City shall avoid the following if there is not sufficient comparable housing available:

- Displacement of a significant number of families having minor children;
- Displacement of a significant number of elderly or handicapped tenants;
- Displacement of a significant number of low-income tenants.

The burden of new development shall not be placed on the established residents of the community. However, everyone's financial participation should be considered if the whole community benefits from the project, and if it is necessary for the general welfare of the public.

## G. CIRCULATION

### Extension of Streets

Norvel to be extended.

Fruitland Avenue, east of Winton Way to be aligned and extended to intersect with Winton Way at the present traffic signal.

Fruitland exiting onto Winton Way south of the Atwater Canal to be closed upon realignment.

Bellevue Road should be extended all the way to Highway 99, when funding is available for the interchange.

Commerce Avenue needs to be extended to Applegate Road, and the freeway on-ramp going south needs to be realigned.

### New Streets

A new east-west street north of Bellevue should lead from Shaffer Road east, giving access to the two landlocked parcels, and dividing the long narrow lots about halfway to make their development more feasible. A north-south connection from this new street to Bellevue Road

may be considered for better circulation.

A new street should be considered connecting Atwater Boulevard with Olive Avenue.

#### To Be Abandoned

Ash Street is to be abandoned as soon as some other access can be arranged for the one property owner needing it.

Any action to be taken altering downtown streets, i.e., abandoning Second and Fourth Streets, shall conform to the desires of the property owners and downtown merchants, and be approved by the Redevelopment Agency.

#### Truck Routes

All through-truck-traffic be strictly limited to designated truck routes.

#### Railroad Crossings

To minimize the conflict between vehicular traffic and railroad transportation, no new railroad crossings should be created unless they are grade-separated from the rail line.

#### Curbcuts

The post office exit on Winton Way should remain open and have right-turn-only enforced.

All new developments along major arterials should have a minimum number of curbcuts. Restrictions on curbcuts should be considered at the following locations:

1. Northeast corner of Bellevue and Winton Way.

2. Northeast corner of Buhach.
3. Bellevue between Shaffer and Redwood.
4. The northeast corner of Winton Way and Juniper.

#### Streets (Miscellaneous)

The overpass over the Freeway on Applegate Road shall get a minimum of four lanes when substantial development occurs south of the Freeway.

Alleys should not be permitted in residential areas.

Upgrading of Atwater Boulevard west of Winton Way should be of highest priority.

Collector streets should be designed to connect local residential areas to each other and to the major arterial system, yet should discourage usage by inter-city traffic.

Collector streets should not be allowed as truck routes.

Curbs, gutters and sidewalks shall be mandatory in new developments and in cases of substantial reconstruction.

When the traffic is too heavy for certain streets, one-way traffic should be implemented.

Special control in form of an overlay zone shall be applied to all lots fronting on scenic routes and major arterials to insure proposed developments do not adversely affect the safe flow of traffic.

Fruitland Avenue, in front of the High School, should be widened as soon as possible.



Action should be taken upon development to widen and improve Bellevue Road from Buhach Road to Santa Fe Drive.

Whatever land is necessary should be annexed, to allow the City to gain control of Atwater Boulevard off-ramp. When completed, a traffic study should be made for the intersection of Shaffer Road and Atwater Boulevard because an extremely hazardous intersection exists.

Blocking of proposed streets or street extensions by any kind of development shall be prohibited.

Official plan lines shall be adopted as soon as possible for proposed street extensions to serve as notice to property owners, utility companies, developers, title companies and public facilities as to future street requirements.

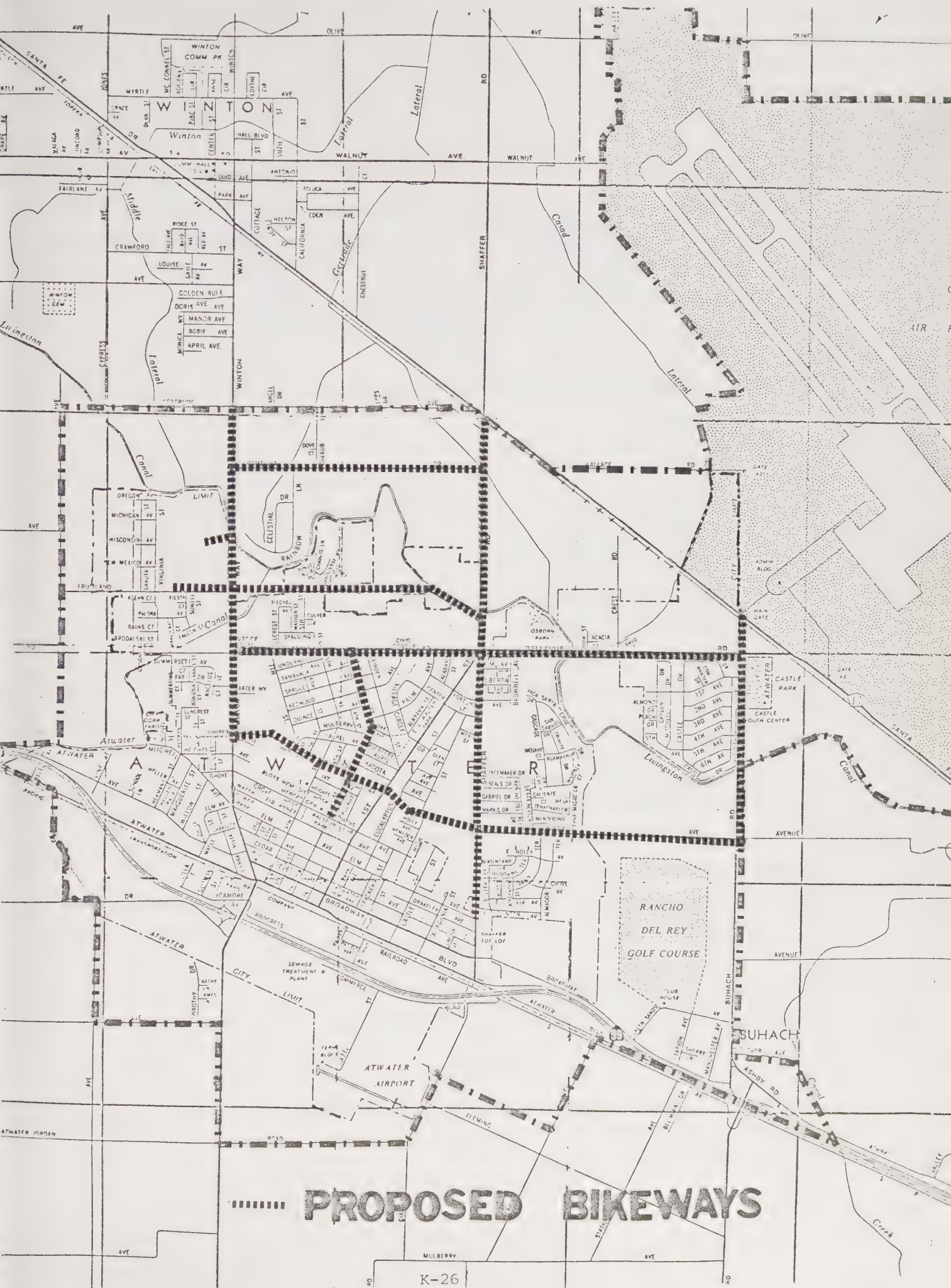
#### Bikeways

The City, County and MID should try to coordinate an agreement to use the MID easement on both sides of Livingston and Atwater Canals as bike and jogging paths. No motorized vehicles should be allowed.

A comprehensive system for bike paths should be prepared and implemented connecting the Atwater High School and Castle Air Force Base with some major residential areas in the City.

Bike paths to be developed should also tie into the bike paths installed or planned for by the County.

City and School officials to work together and reroute the present bike path from Livingston Canal to Fruitland Avenue onto the High School property. Also, the school property should be used to extend the bikeway from Winton Way to the School entrance.



..... **PROPOSED BIKEWAYS**

### Transportation

To keep the transportation system we presently have in the City for senior citizens and handicapped people, as it meets and fulfills their needs.

The City should develop a Public Transportation Plan and System when the need therefore warrants it and funding is available.

The City should encourage car and van pooling for students going to Merced College.

### Traffic Lights

New traffic lights need to be evaluated for the following intersections now, or when development occurs:

1. Third Street and Bellevue Road
2. Juniper and Shaffer
3. Juniper and Buhach
4. Shaffer and Atwater Boulevard
5. Buhach and Broadway
6. Crest and Bellevue Road
7. Winton Way and Atwater Boulevard.
8. Commerce and Applegate Road

### Street Divider

As the traffic increases in Atwater, dividers should be considered along major arterials.

### Vision at Intersections and Curbcuts

The "clear zone" requirement in residential areas shall be strictly enforced.

No parking shall be permitted in the clear zones.

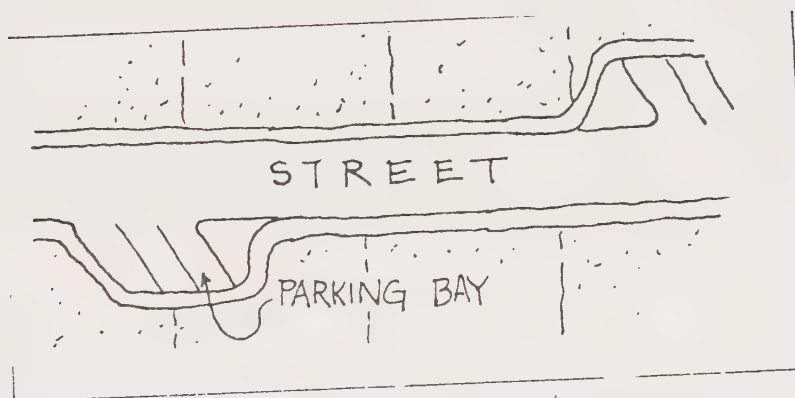
Narrower residential streets should be considered in certain locations.

## Width of Streets

<u>Road System</u>		<u>Width of R/W</u>
Major Arterial		80 - 118'
Collector Street		60'
Minor Street:	Presently	60'
	Proposed	40' - 60'

Buhach Road should be a four-lane major arterial (median divider and bike path should be considered).

No parking should be allowed on new streets narrower than 60' R/W, unless there are parking bays off the streets provided for it.



Street with Parking Bays



## H. PUBLIC FACILITIES

### Wastewater Treatment Plant

No new self-contained treatment plants or individual septic tanks should be constructed inside City Limits, where City sewer services are available.

All new developments, tying into the trunk lines, should be required to finance expansion of that line or a parallel line before development is allowed.

Relocation of the Wastewater Treatment Plant be considered as the City grows.

### Storm Drainage

To consider retention basins for temporary storage, when necessary for future developments, but they must provide ultimate positive disposal at an approved rate. Retention basins should be considered to be used for landscaped open space and temporary storage areas, to remain in private ownership.

A feasibility study should be included in the proposed utility survey for special districts of a common storm drain system with affected property owners bearing the cost of drain installation.

Storm drain water distribution must keep pace with development.

### Street and Public Parking Lot Lights

Energy-efficient (i.e., high or low pressure sodium vapor) street and public parking lot lights shall be required for all areas in the City.

### Water

All future expansion of existing and all new water distribution systems shall provide sufficient water flow for fire fighting purposes.

A 12" water loop should be installed throughout the City and new wells installed as development occurs.

Except where formal commitments have already been made, no City utilities, including sewer and water, shall be extended to areas not annexed to the City.

A water conservation element shall be prepared and made a part of the City's General Plan.

#### Undergrounding of Transmission Lines

All new power transmission lines shall be placed underground. Undergrounding in built-up areas shall be done as money is available.

#### Curb, Gutter and Sidewalk

Curb, gutter and sidewalk installation should be a mandatory requirement on any new building permit issued for renovation, remodeling or new construction exceeding 25% of the present value of the existing structures on that parcel.

#### Public Works Element and Capital Improvement Program

The City should attempt to update and correct all existing utility studies, and incorporate them into a Public Works Element to the General Plan.

The Capital Improvement Program shall be reviewed and updated every year. It shall contain a five-year program, with the first year to be the Capital Improvement budget for the ensuing fiscal year.

#### Public Buildings

Additional fire stations should be considered for our planning area, including the Urban Expansion Area.

The City's Corporation Yard shall be relocated.

The Bloss Library building should be renovated to the extent necessary to maintain its natural beauty, and to submit an application to get it listed in the National Register of Historical Landmarks.

A self-contained recreational/cultural community center complex is urgently needed.

### Schools

Major residential areas should have elementary school sites set aside as soon as it is feasible.

The final location of all schools should be decided upon only after all local planning groups have been informed.

Nursery and day-care facilities should be encouraged.

Full utilization of the High School for adult education by including night school classes is to be encouraged.

The desirable maximum number of students in an elementary school should be 600 students on a ten-acre site.

Schools should be ideally located so that students would have to walk a minimum distance.

Bussing students should be avoided as much as possible.

The City Council should enforce the adopted environmental procedures concerning mitigating significant adverse impact on schools by residential development. However, the City Council should urge the School District to find means other than fees to mitigate adverse impact.

## J. LAND USE AND HOUSING

### Residential

A wide mix of housing types shall be provided to meet the needs and life styles of families, single people, older people, people with modest incomes and people with substantial means. The use of "Planned Community" and "Urban Cluster" concepts should be used as much as possible to stimulate the formation of integrated, well-balanced neighborhoods.

An ordinance should be written and implemented, regulating the appearance of run-down housing, and making provisions for regular replacement of dilapidated housing.

High-density residential should be so located as to take advantage of major arterials and proximity to activity centers such as employment and shopping. Housing types should include a full range of multiple-family types, including modern mobile homes subdivisions and parks, patio homes, garden apartments and townhouses.

To fully utilize high-density residential land use, the combining of several existing small lots should be encouraged.

A minimum of one enclosed parking space shall be provided for every single family residence. Unregistered or inoperable vehicles shall not be parked on the street for permanent storage.

Adequate standards shall be developed to regulate the development of mobile home subdivisions. These standards should include, but not be limited to, location, landscaping, minimum parcel size and setbacks.

### Commercial

Commercial zoning districts should be divided into the following categories:



office commercial, retail (including offices) commercial, general commercial (including services such as automobile repair, etc.), neighborhood commercial (oriented to the immediate neighborhood, not drawing traffic), central commercial (for the downtown area) and a zone for highway oriented uses.

Neighborhood commercial uses may be allowed on land not previously zoned for such uses when acceptable market and economic feasibility studies document the community need and demand for such uses, when the site design provides for proper integration with other adjacent uses, and when the proposed development is an integral part of a well-planned neighborhood unit.

Commercial facilities should be arranged in compact, architectural groupings to produce visible harmony, and to facilitate better pedestrian and vehicular movement.

Existing commercial centers should be encouraged to develop prior to zoning additional commercial property. Trading of existing commercial zoning against a better location may be considered by the City Council, and may be approved only if it is a better location and of benefit to the community.

Strip commercial zoning shall be prohibited.

Zone change proceedings may be considered on property rezoned if development is not initiated in two years.

Heavy commercial uses should be permitted only in appropriate areas where they will not be detrimental to other established land uses.

Heavy commercial uses should not be permitted in any commercial zone, but should be included in the industrial zone.

Bars serving hard liquor shall not be permitted within 300 feet of any parks, church, school, or residential zone without obtaining a Use Permit.

Commercial zoning should not be established adjacent to a school without a buffer. Trees, landscaping and parking lot of a proposed development would be considered a buffer.

Commercial developments which are part of, and appropriate to, a well-planned neighborhood unit should be allowed. Commercial developments should not only be in conjunction with a neighborhood unit, but there should also be a realistic relationship between the size and character of the commercial area and the size and character of the neighborhood. Specific guides for such development shall be established.

Most lots along Winton Way, from Elm to Juniper, are zoned residential, and developed mainly with single-family homes. Strip zoning is very undesirable because it causes traffic hazards and gives a neglected and run-down appearance. However, the recommendation is that the City Council consider changing residential zoning to office commercial under an Overlay Zone or a Specific Plan. Items to be considered shall include, but not be limited to, the following conditions:

- That individual exits onto Winton Way shall be prohibited;
- Curbcuts may be considered, one for every 150 feet of frontage, or on side streets only;
- That every effort be made to have one combined parking area for all or most of the lots in any one block (such as the medical complex between Grove and Fir);

- That combination of several lots be strongly encouraged. Lot size shall be a minimum of 10,000 sq. ft.;
- That no spot zoning for one lot at a time shall be permitted, but all lots along Winton Way between two side streets shall be considered for office commercial at the same time. All property owners in a block will have to agree to the change in land use before it can be considered;
- That the zoning and permitted land use remain residential until all property owners between two side streets are ready and agreeable to a zone change to office commercial.

#### Downtown Revitalization Area

This area shall have its separate central commercial zone, because many requirements concerning parking, setbacks, signs, etc., in other commercial districts do not apply here.

Commercial uses should be the kind bringing more shoppers to the area, including most retail establishments, specialty shops, financial and professional offices, restaurants, and some personal service establishments.

Public parking lots fronting on Atwater Boulevard and Cedar shall be created, landscaped and shaded by trees.

When more parking has been created, Broadway shall be improved as desired by the local merchants, and approved by the Redevelopment Agency.

Warehouses may be allowed downtown if incidental to a permitted use and hidden from view.

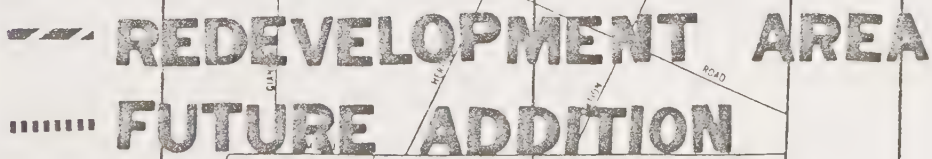
Presently, the County Corporation Yard is located on 2.8 acres on the northwest corner of Sycamore and Applegate Road, but is proposed to be relocated in the near future. This is a prime commercial location and only a use should be allowed that would enhance the downtown business area. The Redevelopment Agency should consider purchasing.

Offices and retail uses allowed in the central commercial zone shall be permitted at any level. Apartments may be approved by special Use Permit, above the first floor.

The City and the Redevelopment Agency, along with the downtown property owners and merchants, should take an aggressive role in the revitalization of the downtown business area.



[illegible]





## Industrial

Adequate amounts of land should be reserved for industrial use, and shall be protected from encroachment by residential uses.

Aesthetic standards shall be developed, implemented and maintained in the development of the industrial areas.

Zoning controls in the industrial areas shall be based on performance standards with stringent restrictions and controls to eliminate nuisances associated with some industries, and to protect the community from toxic and other chemical hazards, pollution of the air, water and soil. Heavy water using or heavy sewage producing industries should be strongly discouraged due to the City's lack of resources.

Automobile wrecking, storage of second-hand automobile parts and disabled automobiles shall not be permitted in the light industrial district, only in heavy manufacturing areas where they can be hidden from public view.

The railroad property, where the scrap metal business is presently located should be zoned "commercial" and/or "light industrial".

Land south of Southern Pacific Railroad shall be industrial, but highway oriented and retail uses on both sides of Applegate Road near the Freeway exit/entrance shall be established if needed.

Presently undeveloped land in agricultural use shall be retained in agricultural zoning until development is proposed and utilities are available, at which time it can be rezoned.

## Infill

Priority for development shall be to fill in "islands" existing within the present general City boundaries and to continue work in the areas already partially developed and served by public services and

facilities. Emphasis shall be on upgrading and rebuilding older areas rather than consuming farm lands and other open spaces for development. The City shall aggressively pursue the elimination of all islands and land substantially surrounded by City limits.

Development shall only be permitted in previously undeveloped areas when (a) the need for such development and its value to the community can be demonstrated to the satisfaction of the City; (b) the area is part of the incorporated City or immediately adjacent; and (c) all necessary public services and facilities are fully available.

#### Urban Expansion

When agriculturally zoned land is annexed and there are no immediate plans for development, the City will retain and continue the agricultural zoning until the land is ready for development and a proposal has been submitted and approved.

The growth of Atwater must be controlled to the extent that services, i.e. water, sewage, police, fire, schools, etc., must have available capacity to serve all of the City.

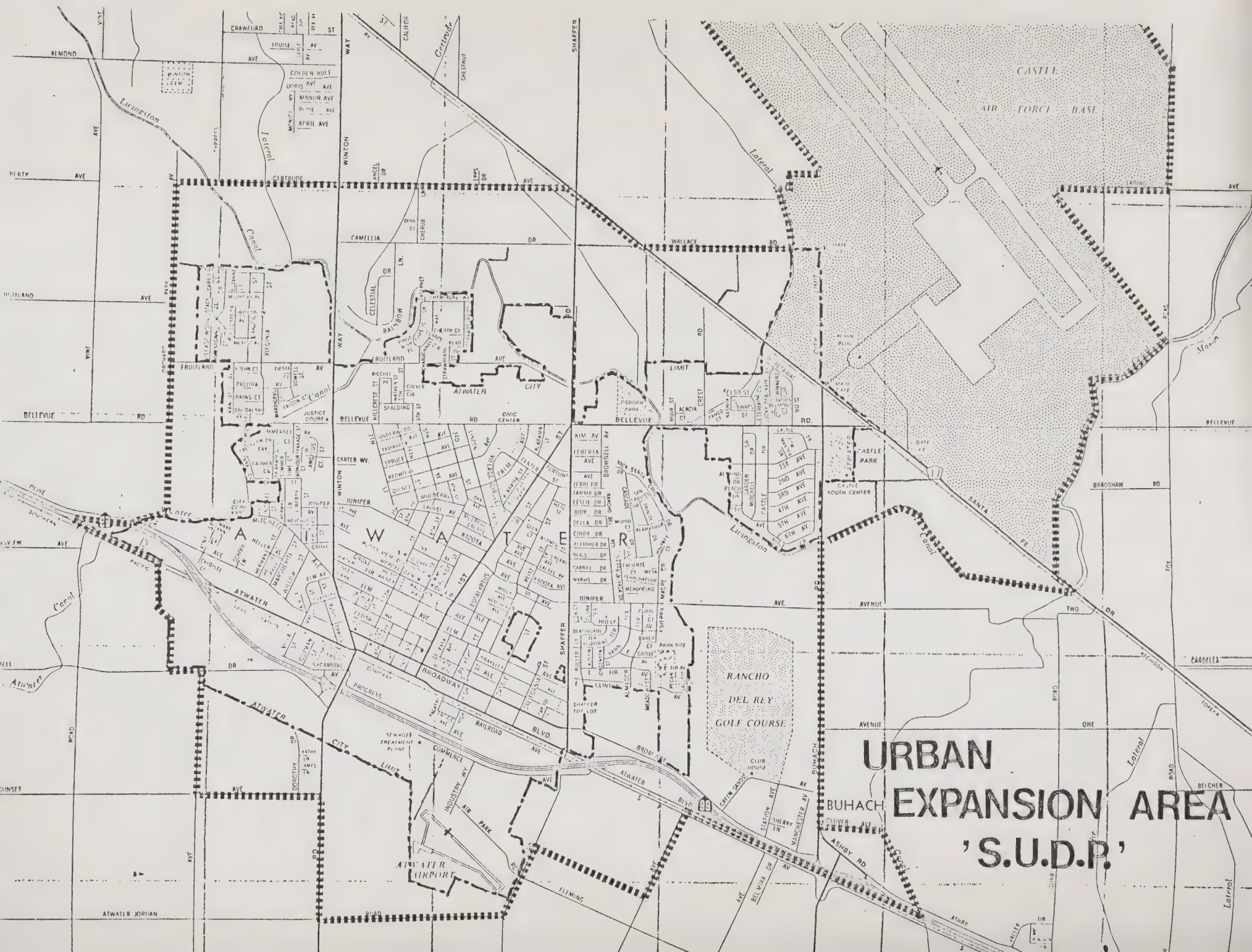
The City of Atwater should aggressively pursue through legal means the elimination of islands and substantially surrounded lands adjacent to and within City Limits.

Cooperation with local residents and property owners within the Urban Expansion Area is most important by keeping them informed.

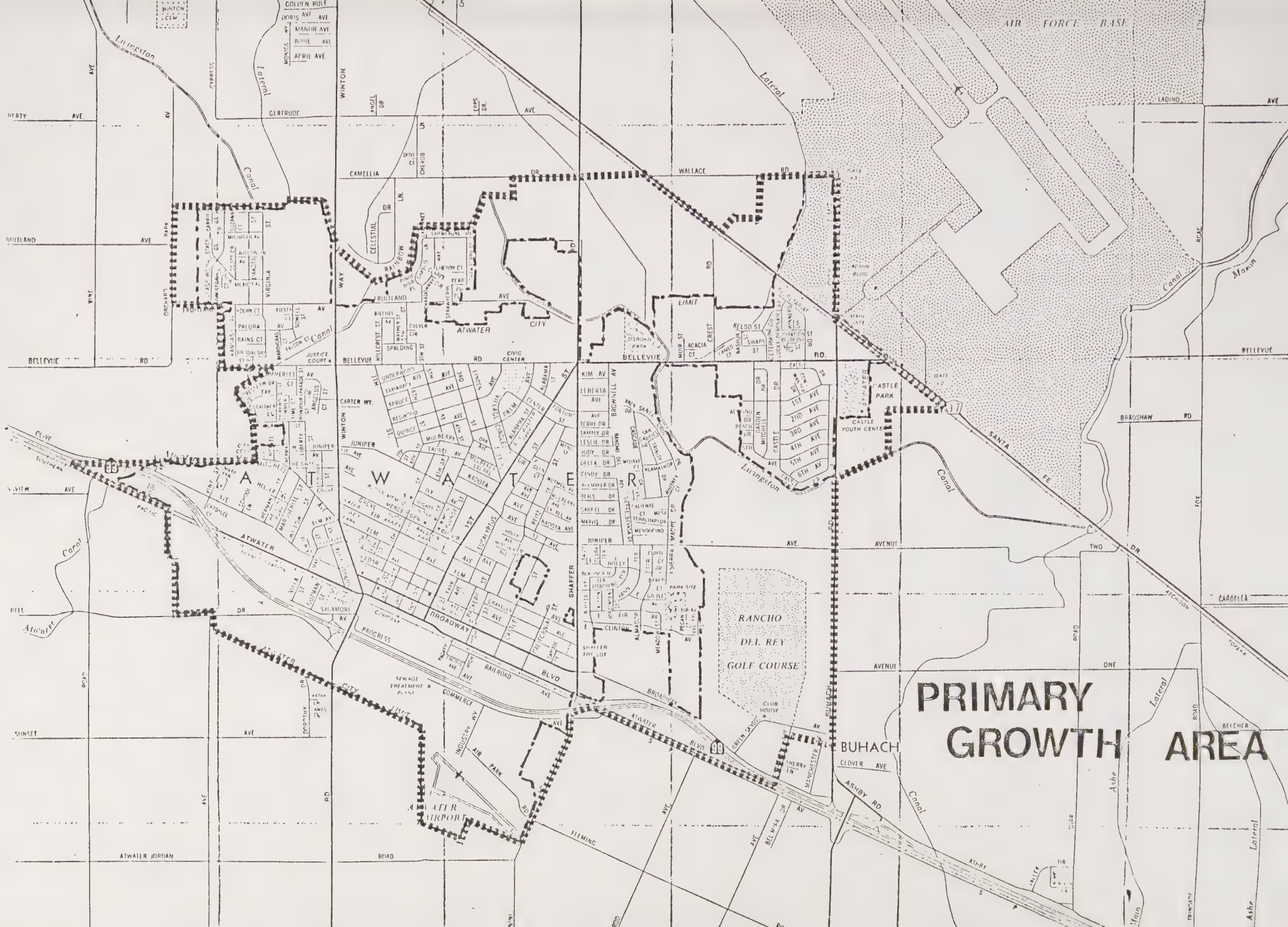
No area shall be annexed unless it is advantageous to both the City and the property owners of the area in question.

The City should encourage contiguous development.





URBAN  
EXPANSION AREA  
'S.U.D.P.'



**PRIMARY  
GROWTH  
AREA**



The City will encourage orderly growth with sane, uniform policies and discourage urban sprawl.

Castle Air Force Base in its entirety should annex to the City of Atwater at the earliest opportunity.

The City should develop a Growth Management Element.

#### K. ZONING AND APPLICATION PROCEDURES

The Zoning and Subdivision Ordinances shall be revised after adoption of this General Plan, integrating the newly adopted policies, densities and City-wide requirements. Included in that revision shall be the following items:

- No fences higher than three feet shall be allowed forward of the building setback. If a side yard abuts a neighboring front yard, the front yard setback shall apply to all fences and structures;
- That no structures shall be permitted in any frontyard, but that the roof overhang shall not be considered a structure and may encroach more than the present two feet (does not include anything held by poles, i.e., patio cover);
- That the property owner may place a detached accessory building, which does not exceed 12 feet in height, any place on the property with the only conditions:
  1. That it comply with the building and fire code; and
  2. That no accessory building is permitted any place in front-yard setbacks;

- That adjustment permit procedures should be reviewed for consistency with State Law.
- For the purpose of making new homes more affordable for more people, the following changes should be considered:
  1. New residential zones be created, allowing smaller lots;
  2. Narrower streets in new residential developments;
  3. Zero lot line;
  4. Patio homes;
  5. Mobile homes on individual lots at certain locations in the City, if consistent with requirements;
  6. Sidewalk to be adjacent to curb;
  7. Revise existing procedures for processing applications, and require engineered drawings only after approval by the Planning Commission has been received. Include conditions in the Staff Report and Resolution before placing the application on the agenda. The above shall apply only if the procedure is consistent with State requirements.
- All Site Plans and associated Use Permits shall expire two years after approval, if no building permits have been issued by then and construction started.
- All other types of Use Permits shall expire one year after approval if operation has not started. A Use Permit shall also expire if the use has been terminated for 12 months or longer.



Previously approved Site Plans and Use Permits shall be reviewed for possible enforcement of these provisions.

L. GENERAL PLAN REVISION

That an annual report of the General Plan implementation be submitted by the City Staff to the City Council the beginning of each calendar year, with recommendations for revisions, if applicable.

That applications for a revision to the General Plan may be considered up to three times a year, with one revision concurrent with the annual report.

In reviewing proposals for General Plan amendments, local officials and citizens shall remember that the General Plan is a policy document for the entire community, and that it may only be amended "in the public interest". In other words, the plan should only be amended when the City, with the support of a broad consensus, determines a change is necessary, not merely because a property owner or group of citizens desires the amendment.

# RESIDENTIAL DENSITIES

Density	Category	Dwelling Units/Acre	Site Area/D.U.
LOW LOW DENSITY	Agricultural Preserve	1 D.U./5 acres	5 acres
	Agricultural-Residential	1 D.U./2 acres	2 acres
	Rural Residential	1 D.U./1 acre	1 acre
LOW DENSITY	Single Family Residential	2 - 7 D.U.s/acre	6,000 - 20,000 sq.ft.
MEDIUM DENSITY	Single Family, Duplex, Mobile	8 - 21 D.U.s/acre	2,000 - 5,000 sq.ft.
	Homes, Multi-Family Apartments, Open Space		
HIGH DENSITY	Multi-Family Residential	22 - 43 D.U.s/acre	1,000 - 1,500 sq.ft.
VARIES	Planned Unit Development	Varies	Varies
VARIES	Residential Transition	Varies	Varies

NOTE: Dwelling units/acre are given for gross acres. A net acre is approximately 75% of a gross acre, after streets, alleys, drives, etc., have been deducted.

Mobile homes have to comply with requirements as approved by Ordinance C.S. 473, concerning certification, foundation, minimum width, eave overhand, siding and roofing material, parking structure.

# DENSITIES IN RESIDENTIAL DISTRICTS

Specific Category	Minimum square feet of land per unit	Dwelling units/net acres	Minimum Lot Size
<u>LOW LOW DENSITY</u>			
A-P Agricultural Preserve	five (5) acres	1/5	5 acres
A-R Agricultural Residential	two (2) acres	1/2	2 acres
R-R Rural Residential	one (1) acre	1	1 acre
<u>LOW DENSITY</u>			
R-E Residential Estate	16,000 sq.ft.	2/1	16,000 sq.ft.
R-1-10 Single Family Residential	10,000 sq.ft.	3/1	10,000 sq.ft.
R-1-8 Single Family Residential	8,000 sq.ft.	4/1	8,000 sq.ft.
R-1-6 Single Family Residential	6,000 sq.ft.	5/1	6,000 sq.ft.
<u>MEDIUM DENSITY</u>			
R-1-5 Single Family Residential	5,000 sq.ft.	6/1	5,000 sq.ft.
R-1-4 Single Family Residential	4,000 sq.ft.	8/1	4,000 sq.ft.
R-1-3 Single Family Residential, patio homes	3,000 sq.ft.	10/1	3,000 sq.ft.
R-1-M Single Family Residential	5,000 sq.ft.	6/1	5,000 sq.ft.
R-2 Duplex or Single Family	3,000 sq.ft.	10/1 + open space	6,000 sq.ft.
R-3-2.5 Multi-family Residential	2,500 sq.ft.	12/1 + open space	10,000 sq.ft.
R-3-2 Multi-family Residential	2,000 sq.ft.	16/1 + open space	10,000 sq.ft.
<u>HIGH DENSITY</u>			
R-3-1.5 Multi-family Residential	1,500 sq.ft.	18/1 + open space	10,000 sq.ft.
R-3-1 Multi-family Residential	1,000 sq.ft.	25/1 + open space	10,000 sq.ft.
<u>VARIES</u>			
P-D Planned Development of Commercial, residential and/or industrial.	Varies	Varies	one (1) acre min.
R-T Residential Transition (Allows Commercial with Use Permit)	2,000 sq. ft.	Varies	10,000 sq. ft.

Population

50,000

45,000

40,000

35,000

30,000

25,000

20,000

15,000

10,000

1980

1985

1990

1995

2000

18,270

58,595  
@ 6 %

Year  
2001

48,477  
@ 5 %

40,034  
@ 4 %

32,997  
@ 3 %

27,149  
@ 2 %

## POPULATION PROJECTION





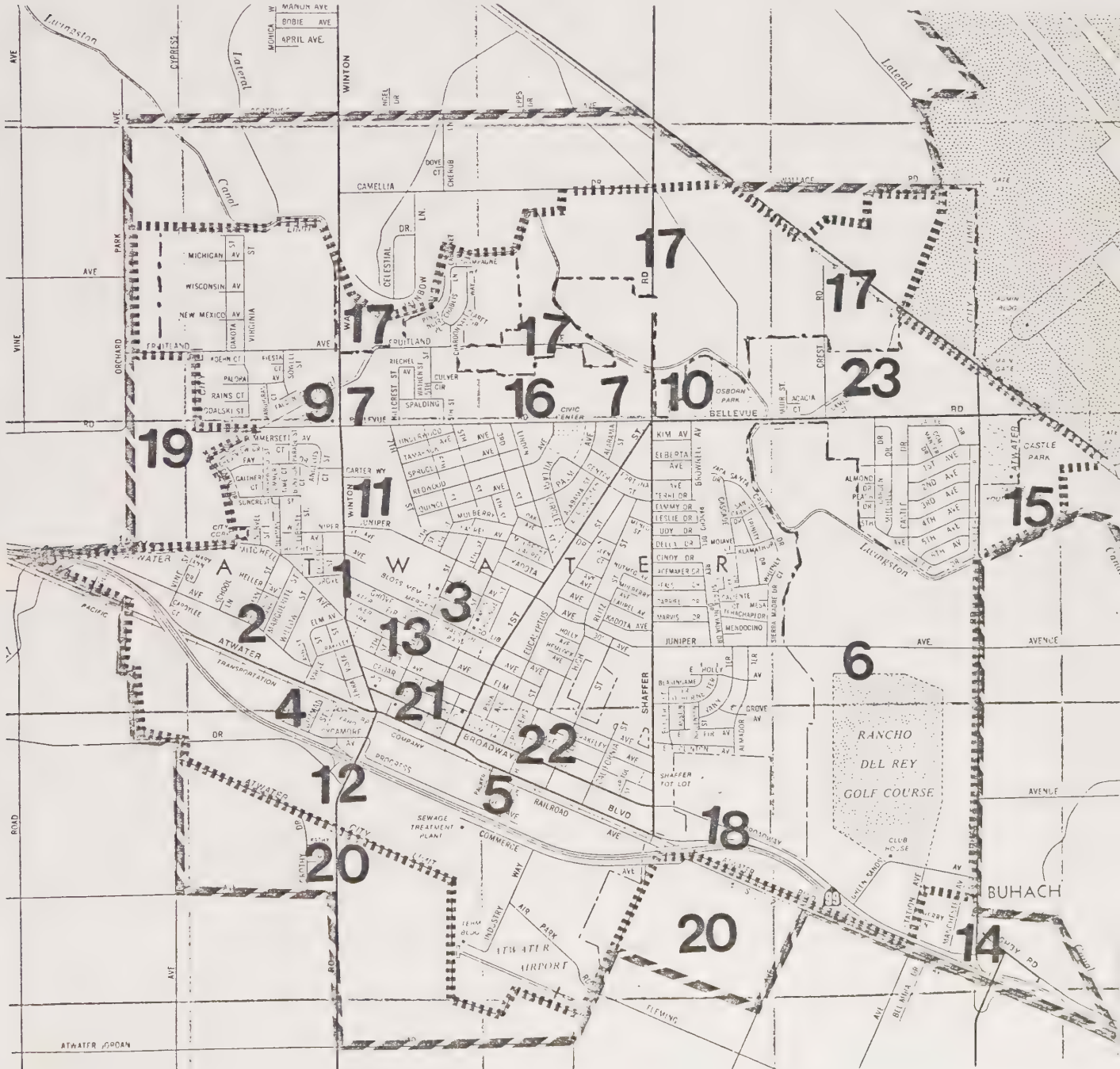
**LAND USE  
MAPS**



## LAND USE MAPS

On the following pages are numbered land use maps, which correspond with the numbers given below. Only undeveloped or partly developed areas are shown, areas in transition to a different type of use, or those where detailed explanations are required.

Area # 8 is not shown below, because it covers all Scenic Corridors.

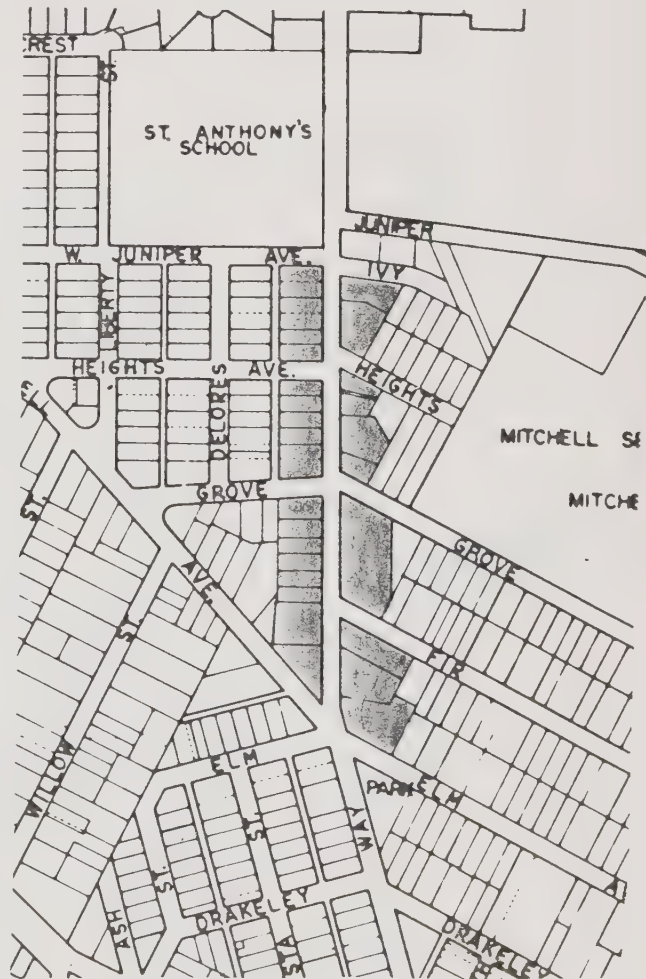




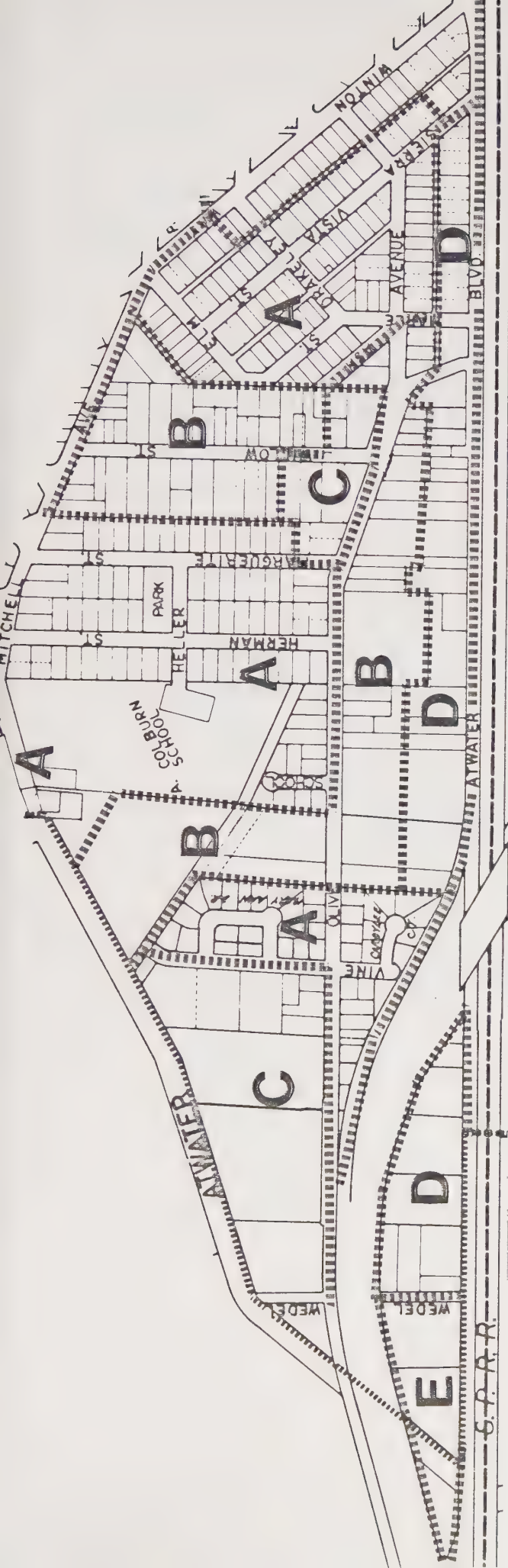
WINTON WAY OFFICE COMMERCIAL

While the General Plan is strongly recommending against "Strip Commercial" development, the properties fronting on Winton Way, between Juniper and Elm/Mitchell, are recommended for conversion from residential use to office commercial use under an Overlay Zone or a Specific Plan. Items to be considered shall include, but not be limited to:

1. That a majority of property owners in a block, between two side streets, agree to the zone change for that block;
2. That individual exits onto Winton Way shall be prohibited. However, curbcuts may be considered for an individual property to be located no closer than one for every 100 feet of frontage, when side street access to the property is not available and adjacent property has no other curbcuts which could also serve the contiguous parcel;
3. A desired lot size shall be a minimum of 10,000 sq. ft.



## AREA #2

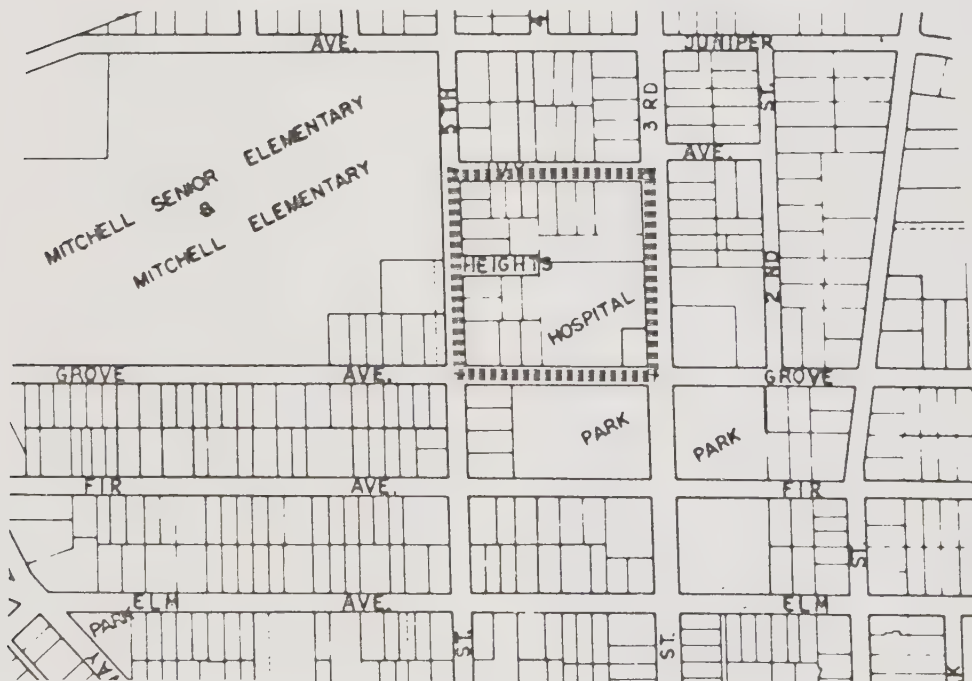


- A. Properties shown in areas as "A" shall be single family residential, with a density of not more than one unit for every 6,000 sq. ft. of land.
- B. Properties shown in areas indicated as "B" may have single family residences at a density not exceeding one unit per 3,000 sq. ft. of land.
- C. Properties in the area shown as "C" are allowed to build multi-family units, not to exceed a density of one unit per 2,000 sq. ft. of land.
- D. Several of the lots in area "D" have been zoned commercial for some time, but no businesses have located there. Most of the properties have a very run-down appearance. Several property owners have indicated their interest in building apartments along Atwater Blvd. Because properties fronting on Atwater Blvd. are in an area of transition with a mixture of residential and commercial uses, it is recommended to establish a "Residential Transition" zone, allowing both land uses, until a definite trend develops. This zoning may be more successful in causing redevelopment. A Use Permit shall be required for commercial uses within this transition zone, to assure compatibility with residential development. Bars, arcades, automobile repair shops, and similar uses, are not considered to be compatible with residences.
- E. These lots at the entrance to the City should have highway-oriented commercial uses.

The lots north and west of Bloss Memorial Hospital have recently been changed to office commercial for medical and dental uses, and another lot in the same block has been requested to be redesignated.

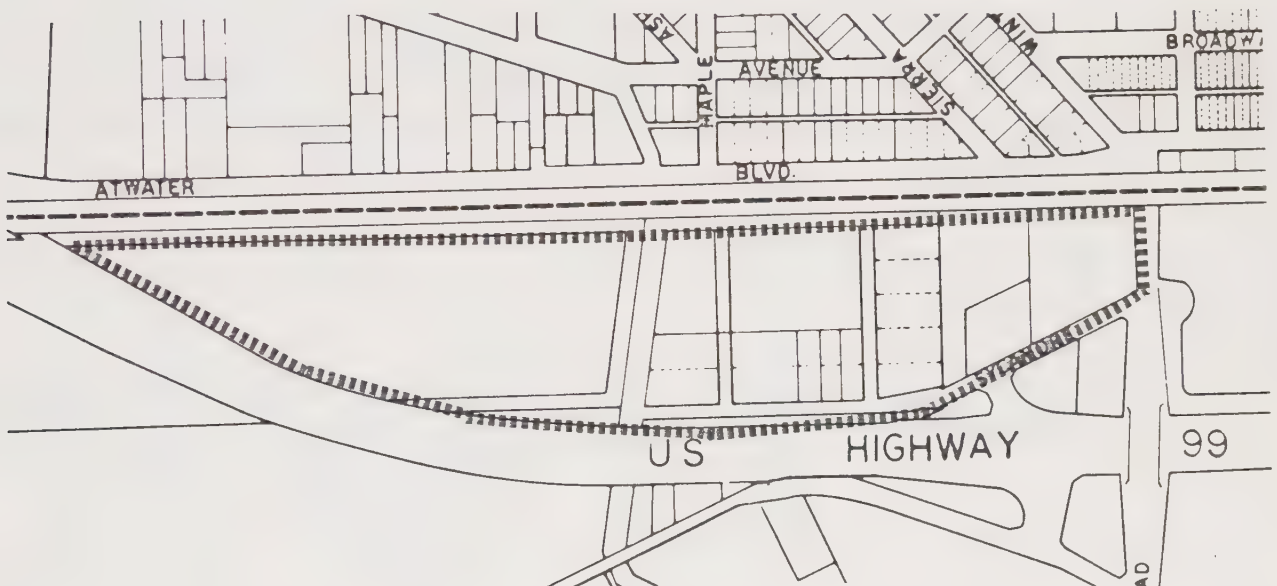
To avoid lot-by-lot spot zoning, it is recommended to allow any hospital-related use be considered through the Use Permit procedure for the block bordered by Grove and Ivy Avenues, Third and Fifth Streets, subject to the conditions: 1. That the property under consideration be adjacent on at least one side to existing hospital-related use; and 2. that adjacent property owners do not object.

Hospital-related uses are dental and medical offices, parking lots for the same, pharmacy, medical or dental lab, and similar.



SYCAMORE AVENUE

Because of mixed but compatible commercial and industrial usages, this area should allow industrial uses and compatible commercial uses by use permit. In addition, residential usage will be considered in conjunction with commercial and industrial activities.



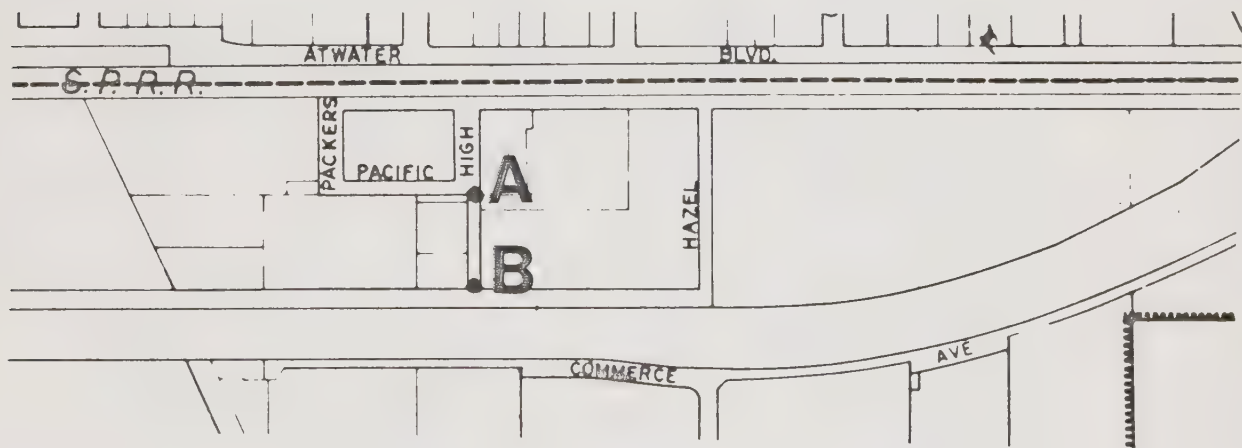


PACIFIC/PROGRESS AVENUE AREA

The property shown below is located between Southern Pacific railroad tracks and Freeway 99. This area is zoned industrial, and is mainly in industrial use.

Most of the industrial uses were established so many year ago, that no conditions were placed on the approval, e.g., grading, street improvements, or even dedication of land for the widening of High Street. It is recommended that High Street, south of the railroad tracks, between points "A" and "B" (below) be widened and improved to a 60 foot right-of-way as soon as additional development occurs on adjacent properties.

Street trees, and some beautification of private properties, shall also be required.

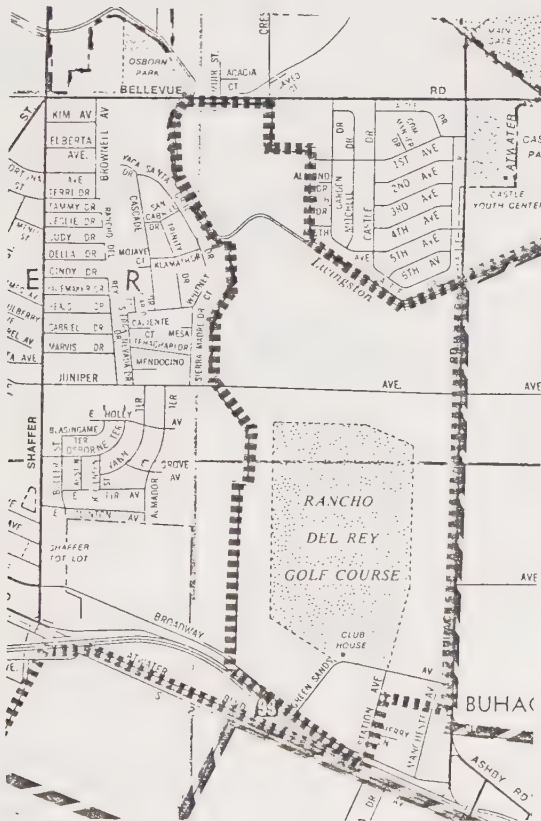


# VINEYARD ANNEXATION

This area encompasses over 300 acres, and an application for annexation and planned development has been received. The land is presently planted in vineyards. The Board of Supervisors included this acreage in Atwater's Urban Expansion Area several years ago because it is located adjacent to the present City limits. The property completely surrounds Rancho Del Rey Golf Course, 119 acres, which will have to be included in the annexation because California law prohibits creation of islands.

The General Plan Committee favors this as a planned development, emphasizing that no self-contained sewage treatment plant shall be allowed. Overall density to remain below nine (9) units per acre.

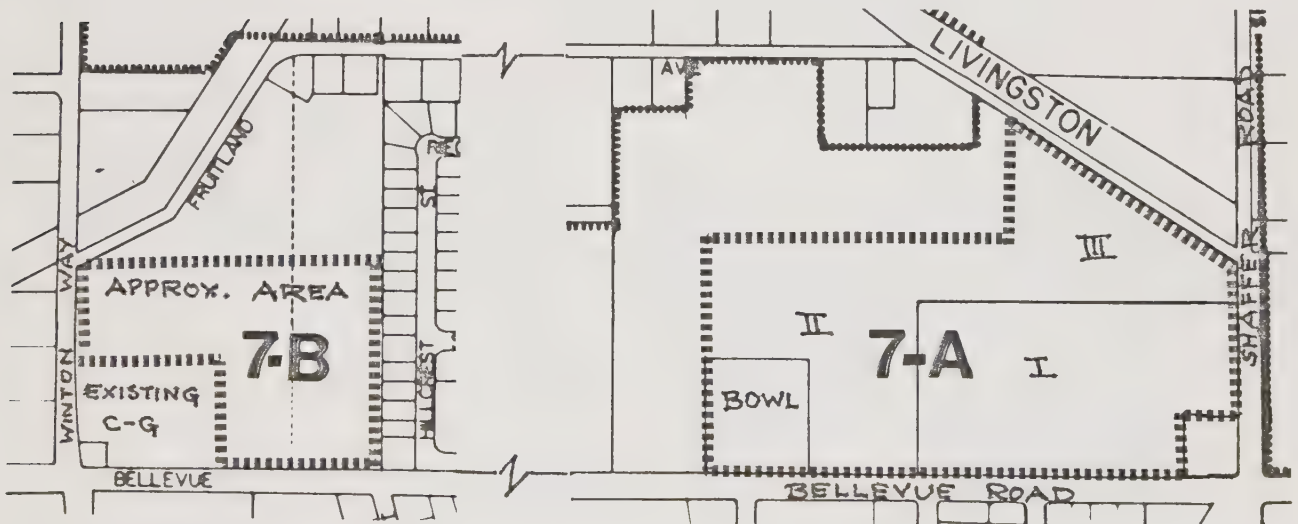
It is recommended to annex these 420± acres including Rancho Del Rey Golf Course which should be declared "Open Space for Recreation".



AREA #7  
A & B

WINTON WAY/BELLEVUE AREA

The area shown as 7-A was zoned Planned Development for a community shopping center in 1975, (25.8 acres), and proposed to be developed in three phases. Phase I (11 acres) is completed, and Phase II has started with construction of Merced County Bank. A department store is proposed for Phase II as the shopping center's major tenant, but no commitments have been made yet. Although the City of Atwater has a large amount of commercially zoned land, the location shown below as Area 7-B, is also an area recommended for commercial development.

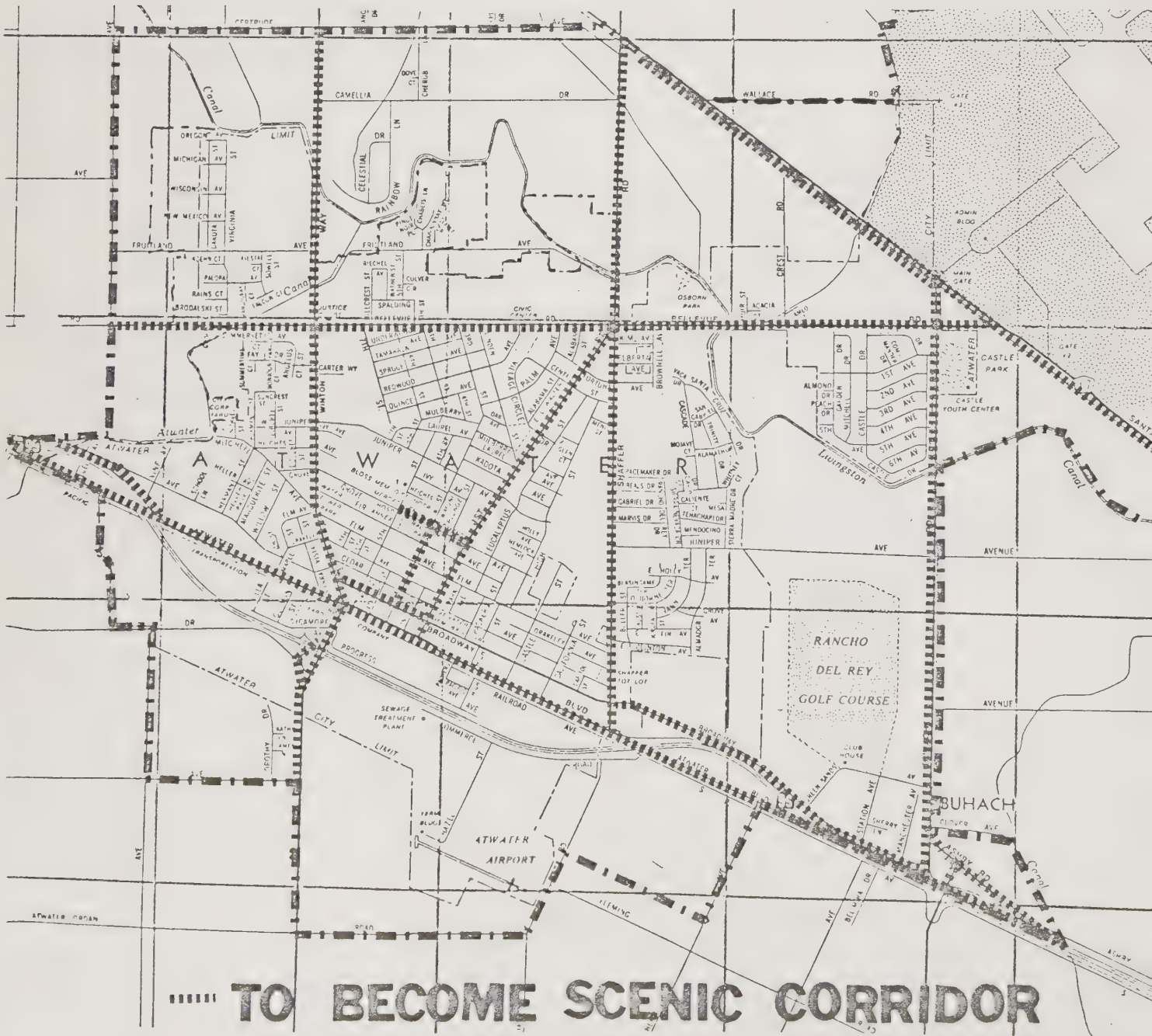






# SCENIC CORRIDORS

An Overlay Zone should be developed for both sides along Scenic Corridors, covering setbacks, ingress and egress, landscaping, fencing, trees, and overall appearance. Besides the beautification, the major emphasis shall be placed on traffic hazards and the safety of the public.

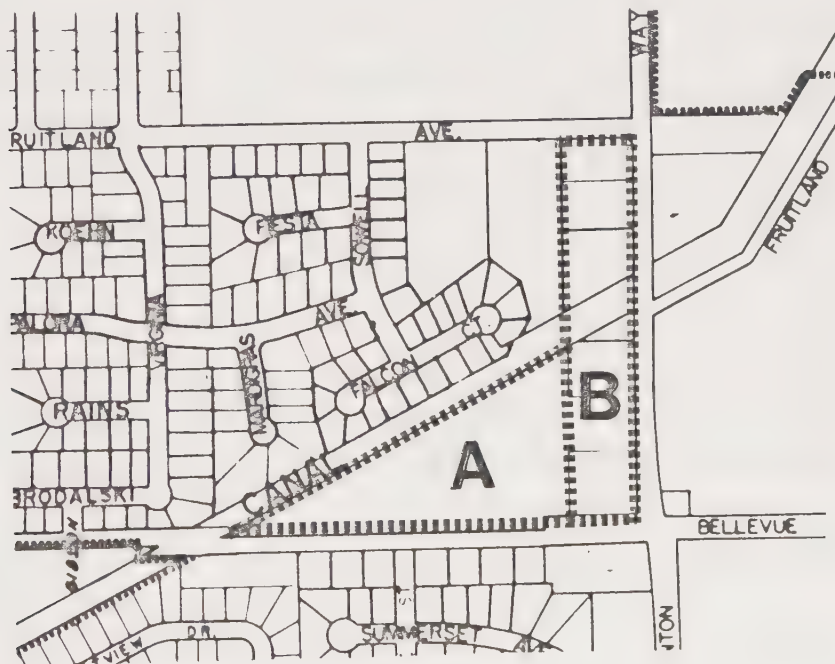


AREA #9

This property needs to be considered in two parts. The dotted line on the map below shows the approximate location of an 80 foot wide PG&E easement.

A. West of that easement are two parcels, which are presently designated for medium density residential, with one unit per 3,000 sq. ft. of land. It should be developed as a Planned Development. The units adjacent to the canal should be kept single story, to protect the privacy of the single family homes north of the canal. Trees could also be required as a buffer.

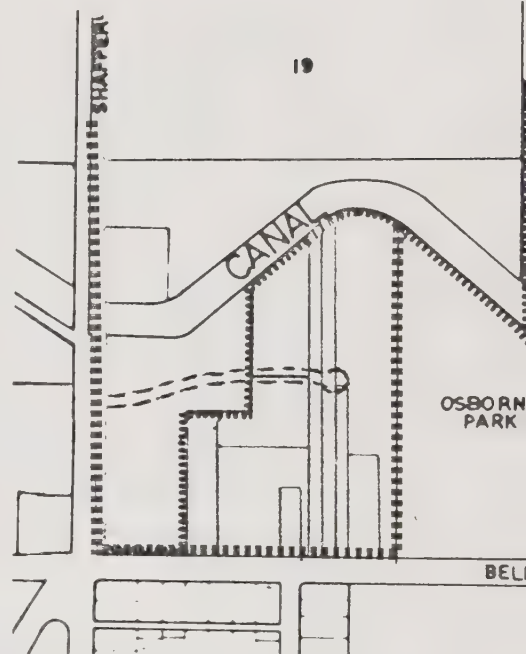
B. The commercial strip fronting on Winton Way should remain as a general commercial zoning.



NORTH-EAST CORNER BELLEVUE & SHAFFER ROADS

An east-west road in the approximate location as shown on this map shall be required for the following reasons:

1. Two parcels of land are located north of the existing commercial development, which have no access to a public street.
2. Before annexed to the City, the County created two 40-foot wide parcels over 1000' deep. It is impossible to develop those lots separately, or to allow a driveway for each lot onto Bellevue Road, only a few feet apart. When zoned commercial, the condition was attached to develop those strips as a joint venture, and allow only one common curbcut. Being cut in half by the proposed street would make development more feasible for those lots, and would lead most of the traffic to Shaffer Road.



Land use recommended is retail or office commercial between Bellevue Road and the new street, and low density residential between the new street and Livingston Canal. The location would be desirable for a senior-citizen complex because of the proximity to banks and shopping.

Density shall not exceed one unit per 3,000 sq. ft. of land, preferable as a planned development, with a recreational area within the residential complex.

The possibility of a connecting road between Bellevue and the new street should be considered, if the length of a cul-de-sac (nearly 800 feet long) seems to create a safety hazard.

If development north of the proposed street becomes impractical, incorporation into Osborn Park is recommended.

ROYAL ARMS VICINITY

This area, a total of about 24 acres, has been before the City Council several times for zone changes to a higher density than single family residential (4-5 D.U./acre). The most recent action taken approved Atwater Estates with 102 units. The site changed ownership again, and nothing has been developed. The area with its weeds, and only one-half of 7th Street developed, is unsightly as well as a traffic hazard. It would be of benefit to the neighborhood to get a development completed at that location.



**Recommendation:** To allow only large lot single family homes fronting on 7th Street, construct curb, gutter, sidewalk, and complete the street to the required 60 foot. width.

Remainder of the property should be a Planned Development, allowing an overall density not to exceed ten (10) units per acre, but requiring a private open space recreation area.

**Circulation:** To prevent a severe traffic hazard, no egress onto Winton Way shall be permitted. New streets shall exit only onto 7th Street & Juniper Avenue, but shall be required to tie into Carter Way. Juniper and Carter Way shall be the only entrances onto Winton Way from this development.

Construction shall be only single story, or a mix of 2- and 1-story units.



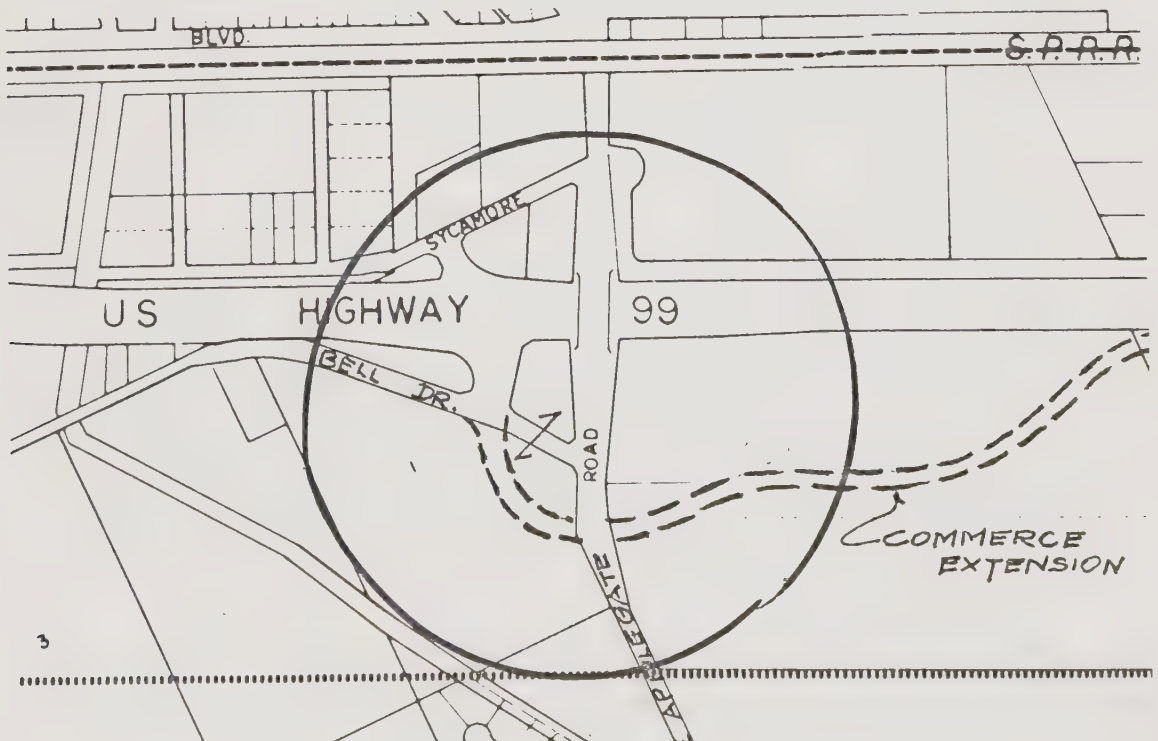
APPLEGATE ROAD

All land south of the Southern Pacific railroad tracks, (except as shown for Area #4) shall be used for light, clean industry. The General Plan Review Committee recommends that no residential use shall be allowed to encroach, except as permitted for a guard or night-watchman.

If the need arises and it would be of benefit to the City of Atwater, highway-oriented commercial development may be established on both sides of Applegate Road, near the freeway off- and on-ramps.

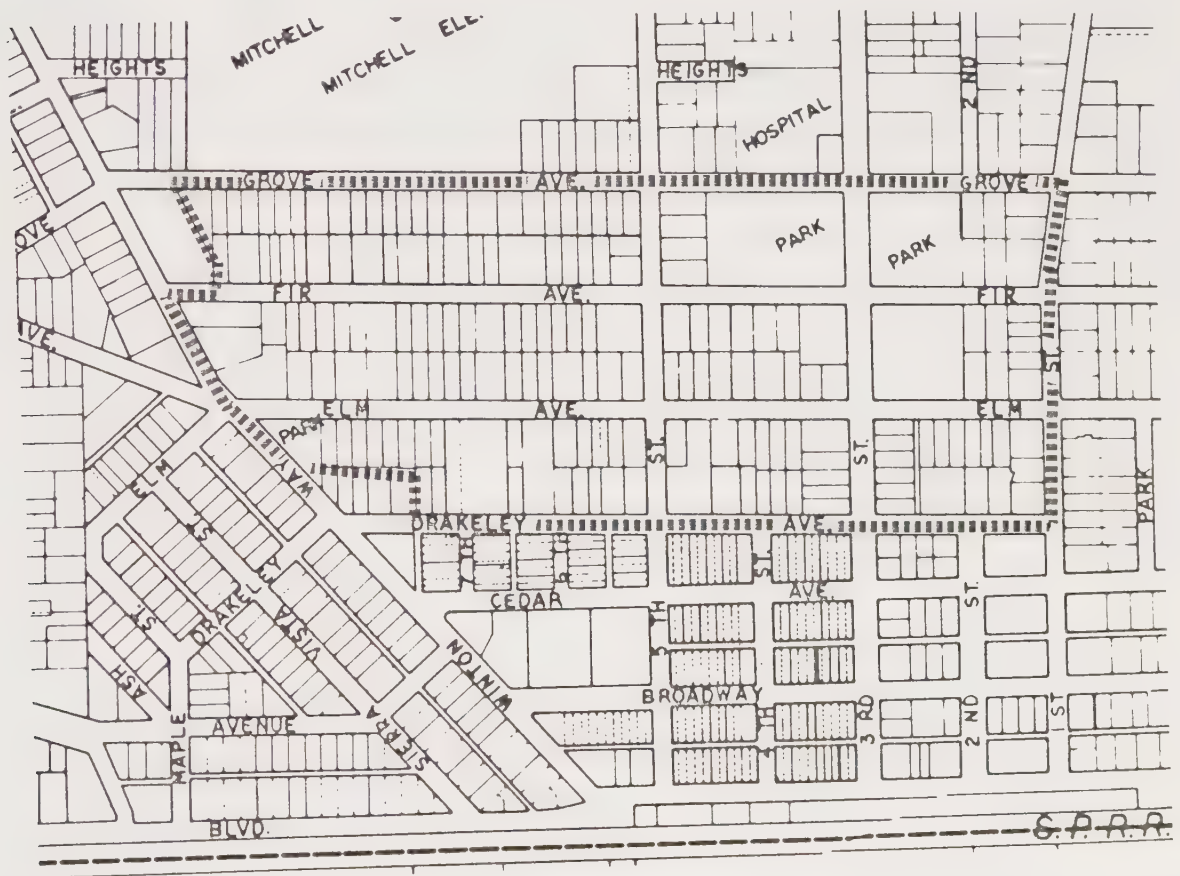
Commerce Avenue should be extended to Applegate Road.

The freeway overpass needs widening to four lanes when development occurs south of the freeway that will generate a considerable amount of traffic.



Properties between Winton Way and First Street, from Drakeley to Grove Avenue, have been zoned for apartments since the first zoning districts were established in Atwater. Most lots have been built up with one or two single family residences, and very few apartments have been constructed over the years.

It is not recommended to tear down the existing homes and to replace them with apartments, but the medium density residential in the outlined area, with one unit per 2,000 sq. ft. of land, shall remain. Any apartments built on larger lots should be single story if adjacent to single story existing residences.



This area is being recommended for inclusion into the Atwater Urban Expansion area, which presently stops at Buhach Road.

The 300 acres around Rancho Del Rey Golf Course are proposed for annexation and a Planned Development all along Buhach Rd. That development, the golf course, Castle Air Force Base, and the new Air Museum will all contribute to making this one of the main entrances to the City of Atwater. All entrances and major arterials are proposed to become "Scenic Corridors" in the Scenic Corridor Element of the General Plan, and the City would like to have a say in proposed developments both sides of Buhach Road.



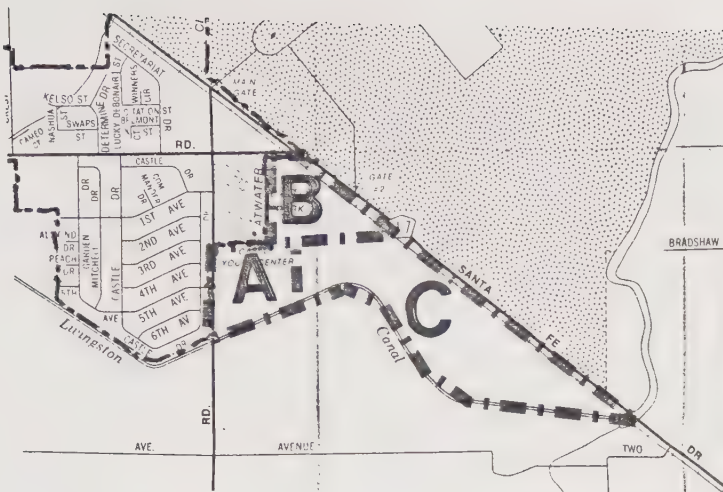
Presently, some of the area at the north-west corner of Buhach and Broadway is zoned residential, some commercial. On the east it is zoned industrial.

The General Plan Review Committee and Staff are unanimously recommending to allow highway-oriented commercial near the entrance, and to clean up the area: street trees, landscaping, curb, gutter and sidewalk would certainly look more inviting to visitors entering the City at this point.



Present County Zoning

No annexation is proposed at this time.



The General Plan Review Committee is requesting to have these 121± acres included in the City's Urban Expansion Boundary for the following reasons:

- A. The 22 acres adjacent to Buhach Road are an ideal location for apartments, in walking distance to the Base. A density of one dwelling unit per 3,000 sq. ft. of land is recommended, when all utilities are available.
- B. Of the remaining 99± acres, approximately 20 additional acres have been included in the Primary Growth Area. They are located adjacent to Castle Park and the City limit, south of Bellevue Road and southwest of Santa Fe Drive, and would provide a good site for a motel, a much needed facility so close to Castle Air Force Base. A good restaurant, or related visitor commercial use could locate on that site as well.
- C. The other 79± acres are mainly in agricultural uses presently, are zoned for agricultural, and shall remain as Agricultural Preserve. They are included in Atwater's Urban Expansion Area, because they are adjacent to A.T.& S.F. railroad tracks, and could be a good site for clean industry many years from now.



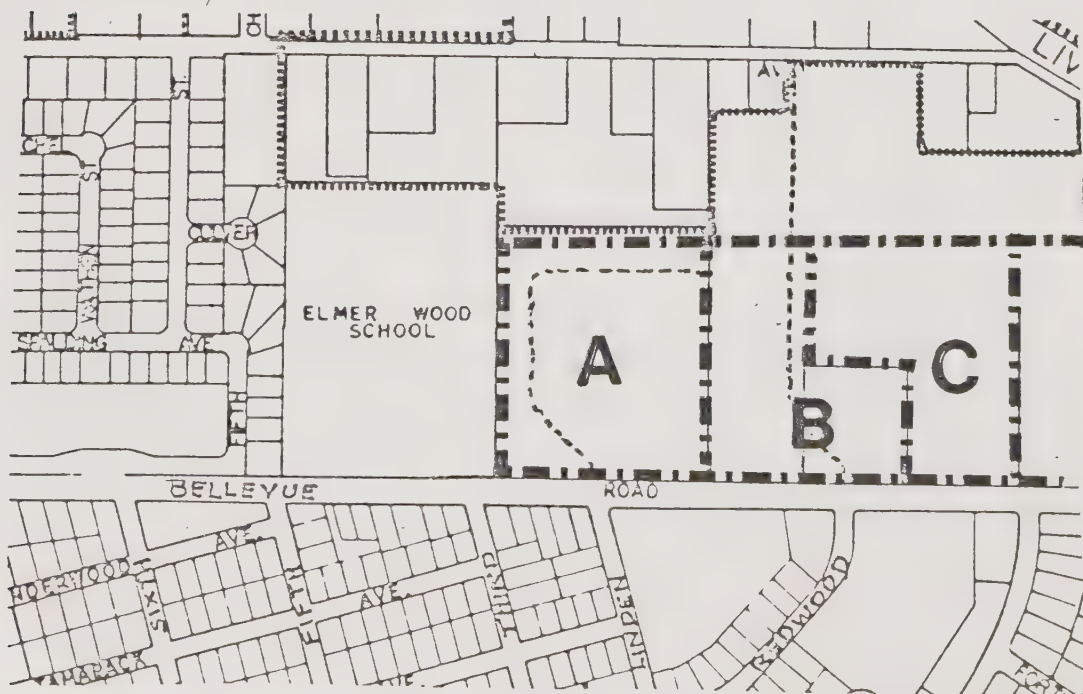
The dotted lines on the map below indicate the tentatively approved extension of Linden Street and Redwood Avenue. It was the unanimous recommendation of Staff that no changes be reflected until development occurs and traffic patterns can be evaluated.

The designated land uses on the three outlined parcels are as follows:

Parcel "A": It is recommended to allow all of that parcel to be developed as P-D commercial, residential or combination thereof, but have the parking lot and a landscaped buffer with trees provide a buffer adjacent to the school. Residential development will not exceed one unit per 2,000 sq. ft. Retail, office or similar commercial uses are appropriate.

Parcel "B": Contains the bowling alley, which is proposed for expansion. Any retail, office or similar commercial use would also be appropriate.

Parcel "C": Is the location of Phase II of the approved Atwater Village Shopping Center.



NORTH OF LIVINGSTON CANAL

Six separate areas are shown on the map below, which are outside Atwater's City limits, but within the Primary Growth Area. Future land use designations for those locations are recommended as follows:

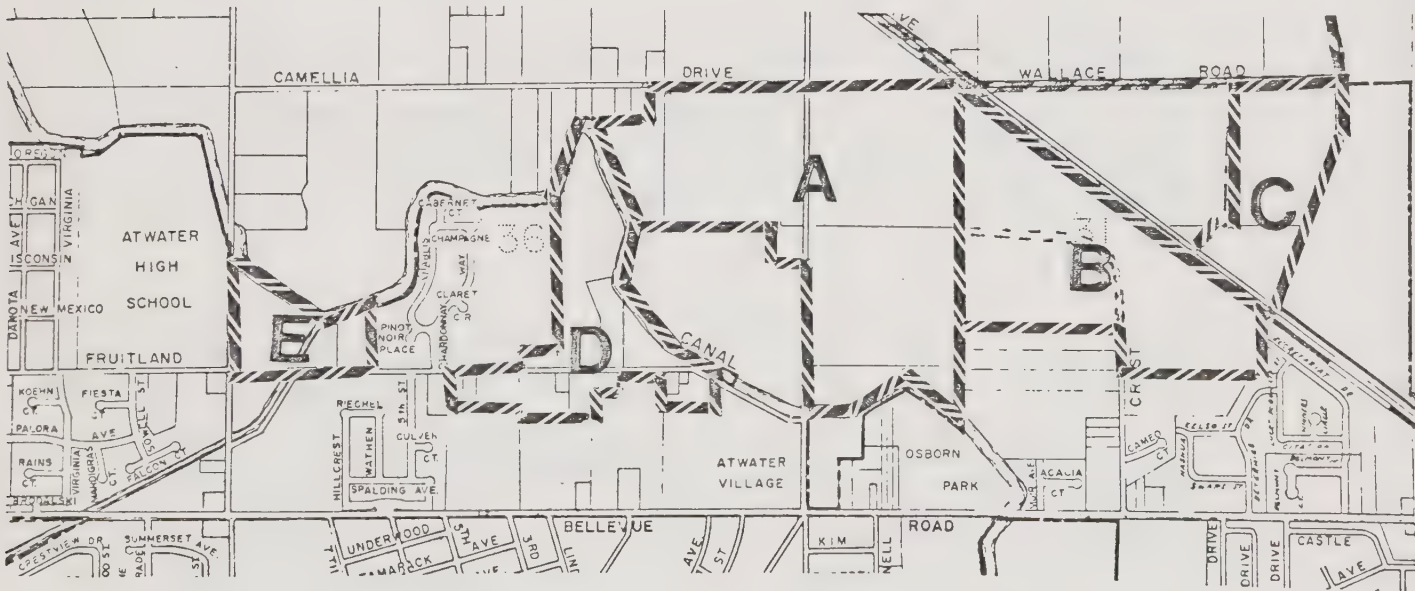
Location A: East and west of Shaffer Road, may get about eight (8) units per acre, not to exceed a total of 1,160 units in the area shown.

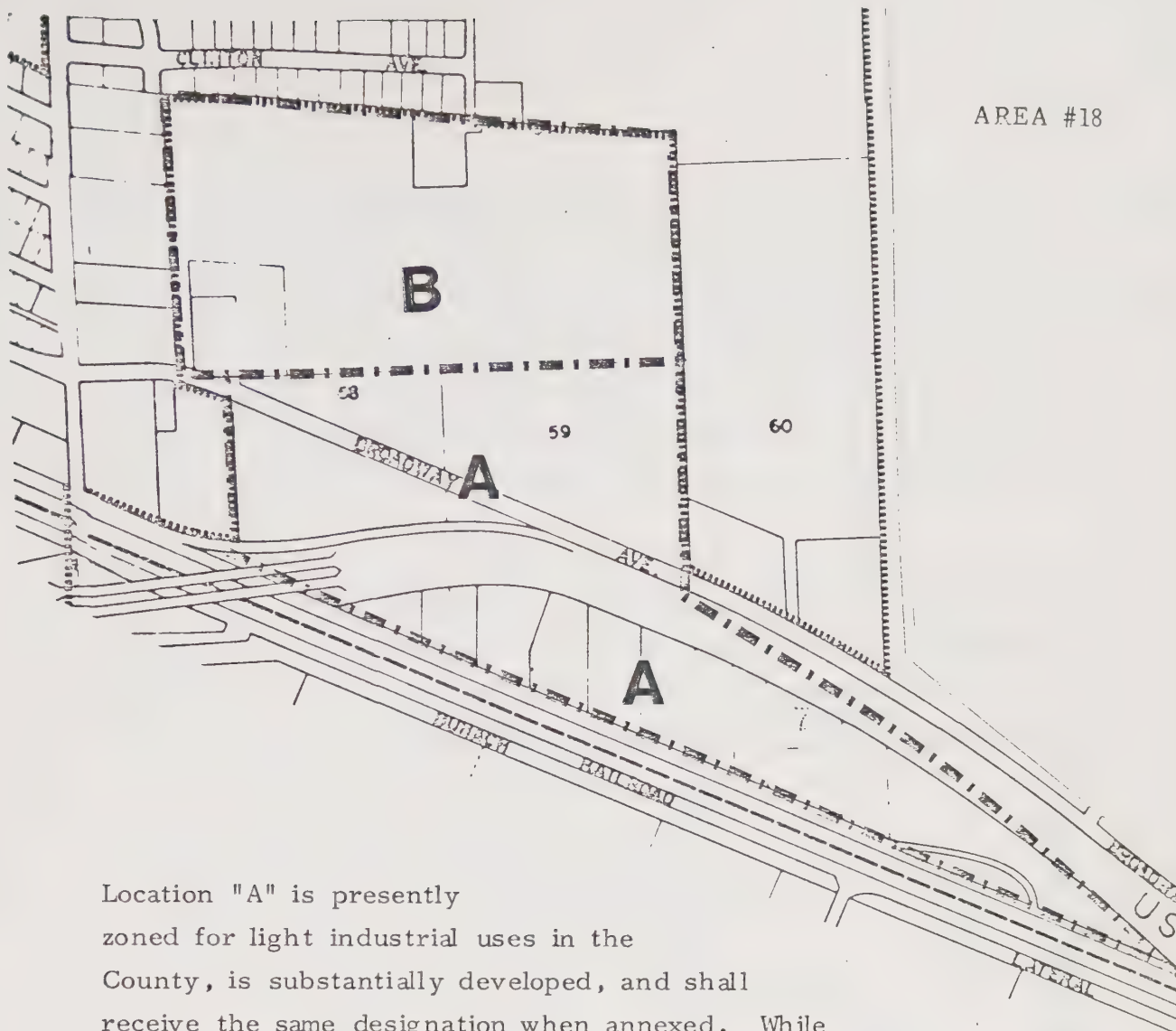
Location B: This acreage is earmarked for future light industrial uses. Presently an almond huller and an orchard are located on the site. Entrance should come from Crest Road, which is proposed to be extended in an east-west direction to Shaffer Road. No crossing over the railroad tracks should be permitted.

Location C: The General Plan Review Committee is adding this request to the initial Draft General Plan, asking to have the approximately 80 acres up to Wallace Road in the north added to Atwater's Urban Expansion Boundary. Thirty-seven (37) acres are proposed to be within the Primary Growth Area. It will be very expensive to extend utility lines under railroad tracks and Santa Fe Drive to that area. One property owner wants to build mini-warehouses at that location, which do not generate much liquid waste, and the Air Museum will have to extend onto this land when they need more room. The Museum is receiving utilities from the Base. Land use designation will be light industrial, with possibly some commercial adjacent to the base, museum and visitor-related uses.

Location D: Because of its proximity to large lot residential developments, the same use is recommended for the remaining acreage: Large lot single family residential, with densities between 2 and 4 units per acre.

Location E: This area needs to be treated in two parts. East of the canal, which is adjacent to large lot single family residential, should be allowed for the same low density of between 2 and 4 units per acre. West of the canal, and adjacent to Winton Way, should be a residential Planned Development of a mixture of densities, single family as well as apartments, but not exceeding ten (10) units per acre overall density. Exits onto Winton Way should be controlled, as far away from the intersection as possible to prevent traffic hazards when making left-hand turns. Once Fruitland Avenue has been realigned, entering Winton Way at the intersection, exit from the Planned Development should be onto Fruitland Avenue, with the exit onto Winton Way allowing "right turn only".





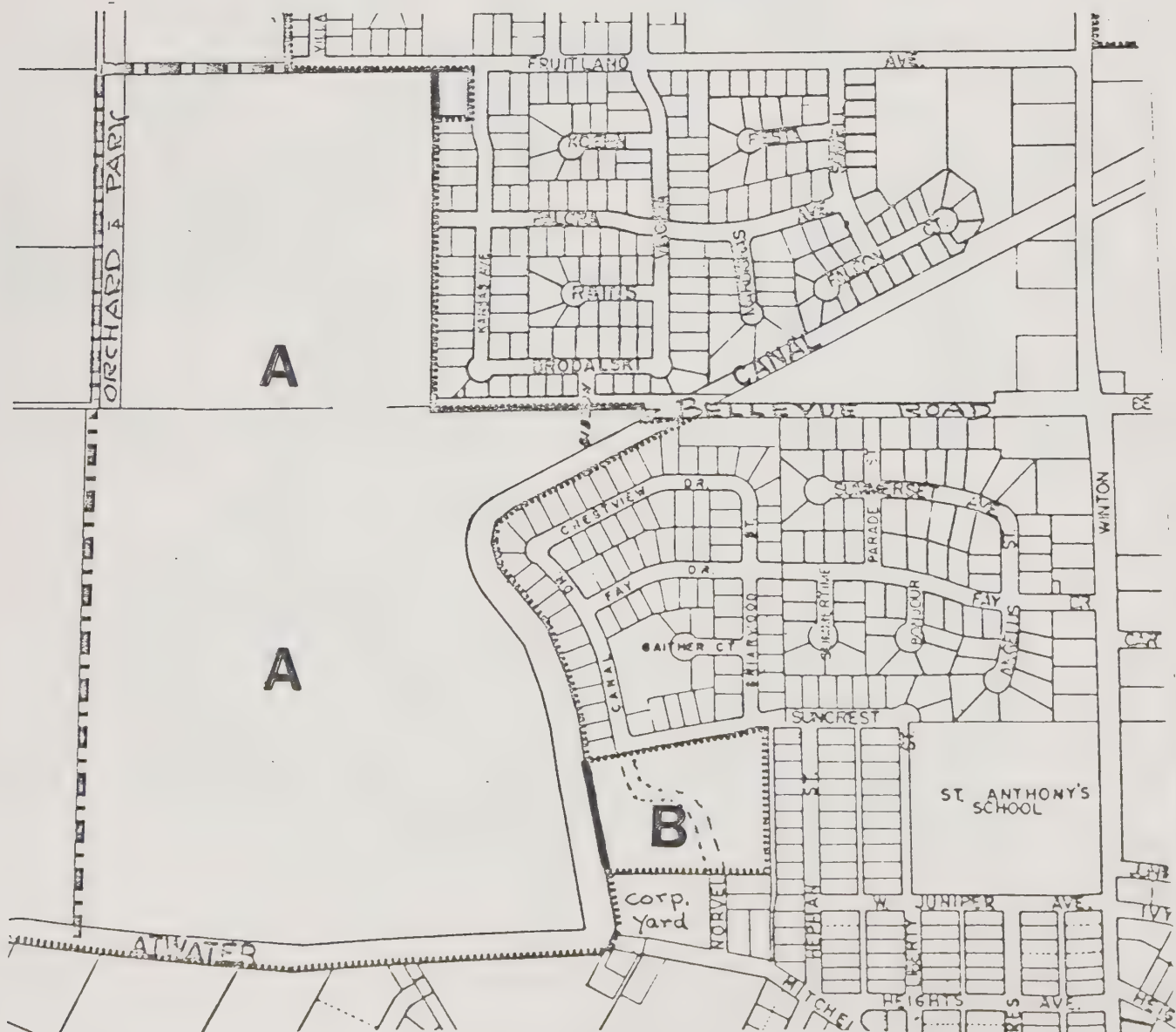
Location "A" is presently zoned for light industrial uses in the County, is substantially developed, and shall receive the same designation when annexed. While in the County, it will be shown as Urban Reserve on Atwater's maps.

Location "B" is presently zoned for single family residential in the County. It is recommended to remain Urban Reserve, until annexation is requested. A planned development with a mixture of single family residential and apartments is recommended for this area, not to exceed seven (7) units per acre overall density. The proximity to commercial in the west and industrial to the south warrants this higher density. A 60 foot access street west of the church property will be required, unless that land is traded against a 60 foot strip along the south property line of the church for right-of-way purposes.



The acreage north and south of Bellevue Road, a total of about 115 acres, is presently the site for orchards, owned and farmed by Wood Fruit Co. Extensive improvements to the company's sewage treatment facility give hope that the agricultural uses will remain in existence for many years to come. The property is presently zoned for single family residential in the County. It is recommended to zone the land "Agricultural Preserve", to protect it from premature conversion to urban uses.

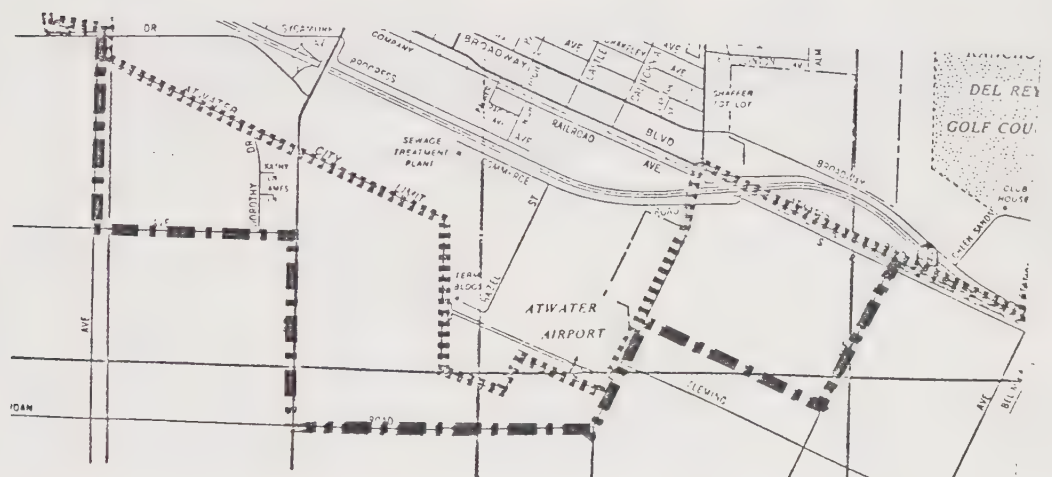
The 7.7 acre property north of Norvell, east of Atwater Canal, as well as the present City Corporation Yard immediately south of it, should develop as low density residential, with a density not to exceed 5 units



SOUTH OF THE FREEWAY

The General Plan Review Committee is recommending additional acreage to be included in Atwater's Urban Expansion Boundary south of the freeway, earmarking it for future industrial expansion. Most of the lands shown for addition are presently cultivated as orchards or pasture, and should be zoned Agricultural Preserve until need for more light industrial land exists.

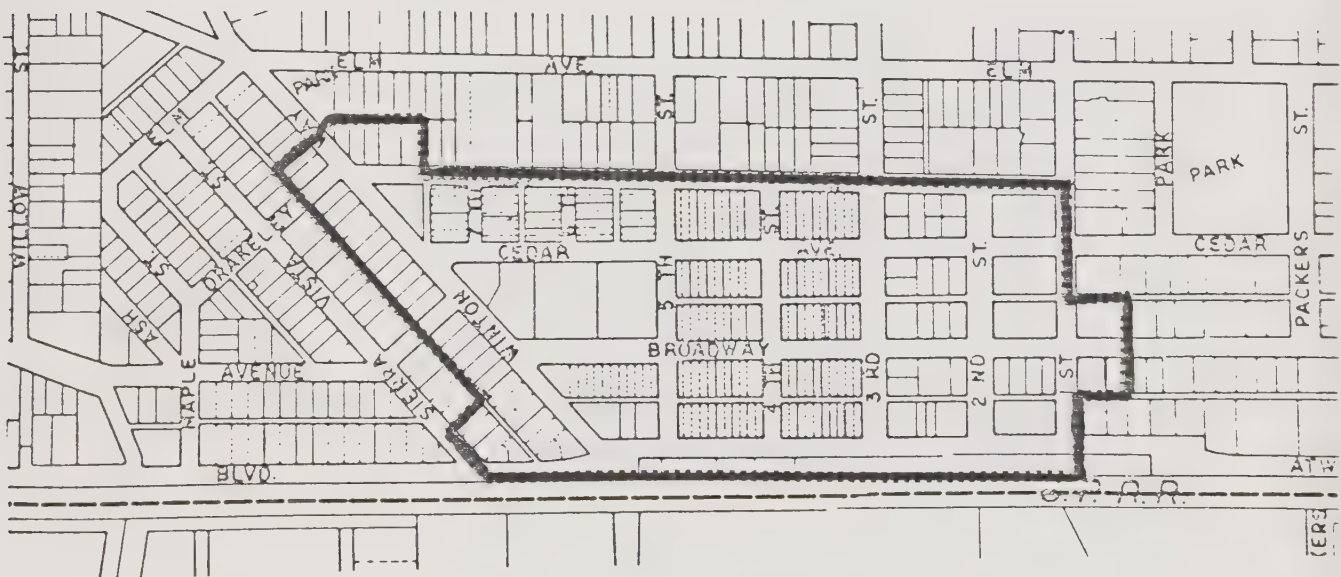
A 19-acre rural residential subdivision at the northwest corner of Applegate Road and Sunset Drive should be considered a non-conforming use, to remain consistent with the policy that no residential encroachment be permitted south of the freeway.

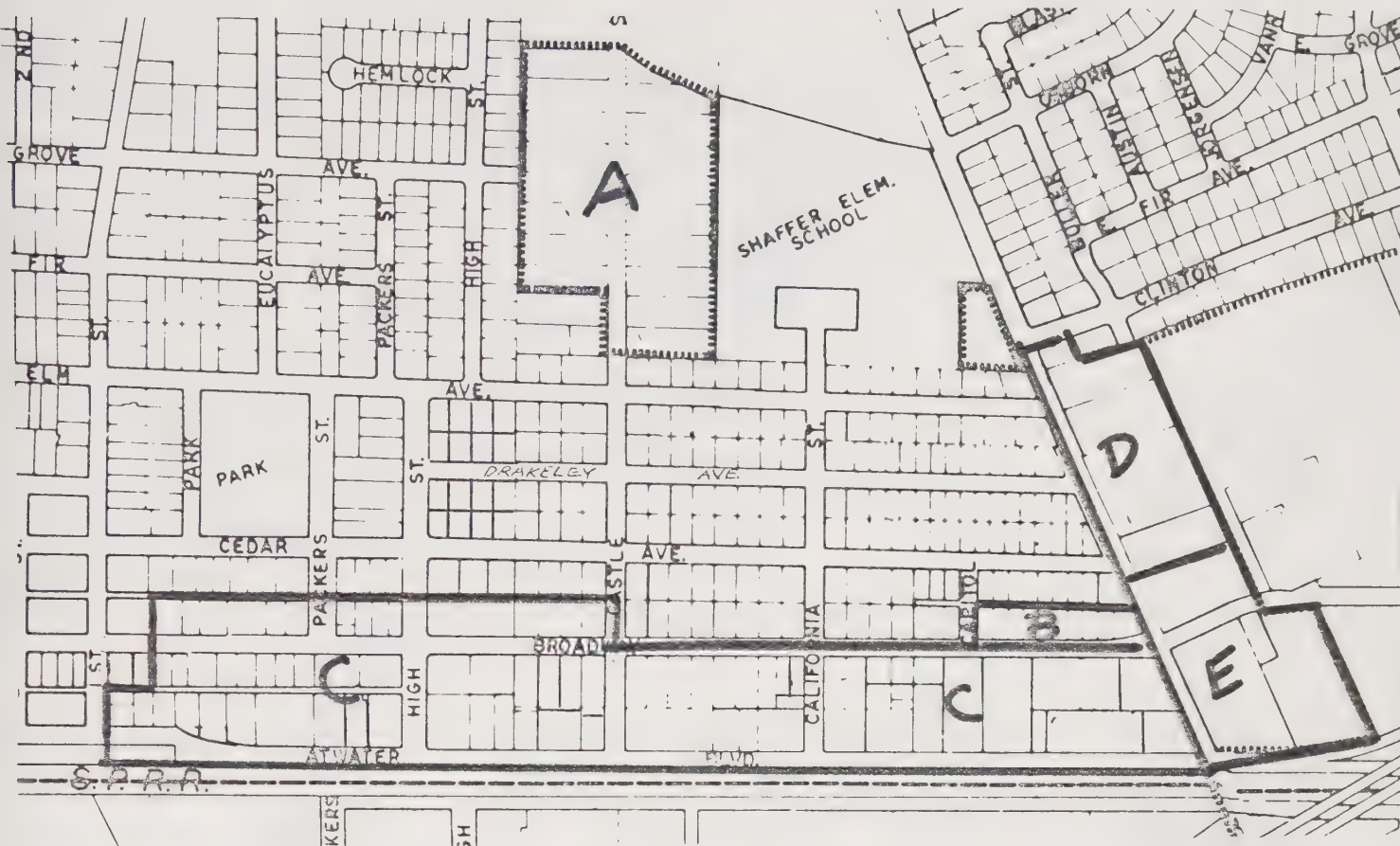


## AREA #21

This area, which is also shown on Page K-37, includes all properties considered as the "Downtown Revitalization Area", and which is discussed in more detail in the adopted Revitalization Plan. This Plan recommends only pedestrian-traffic-generating commercial uses, and to avoid "dead" spaces, which take up room without bringing shoppers to the area.

Because this area has very different needs and requirements than other commercial areas, for example: parking, signs, setbacks, beautification and land uses, a new zone shall be developed for this central commercial area, in coordination with the property owners and merchants in that area.





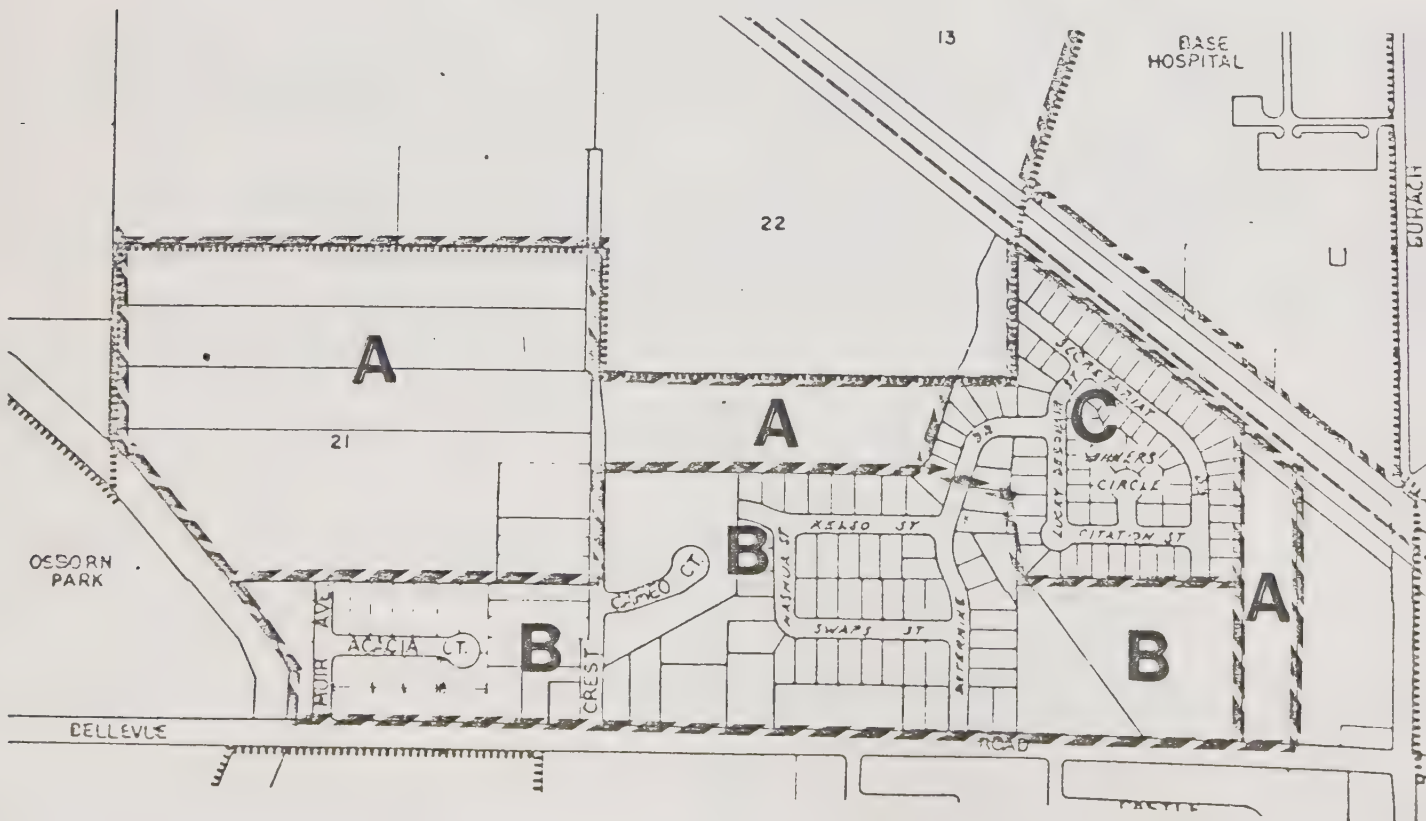
- A. The large lots along Castle Street, which are proposed to be annexed, may get a residential density of not to exceed 1 unit per 3,000 sq. ft. of land.
- B. This area is developed with apartments, about 6 years old. Two lots are still vacant on that half-block, which may get one unit for 2,000 sq. ft. of land.
- C. Many automobile repair shops have developed along these blocks, and it is recommended to allow general commercial uses in this area, including repair and service establishments. Better landscaping and screening needs to be established.
- D. Because the trend has been set for commercial in this area, it is recommended to allow commercial uses here, which do not generate too much traffic.
- E. Light industrial or retail commercial is appropriate.

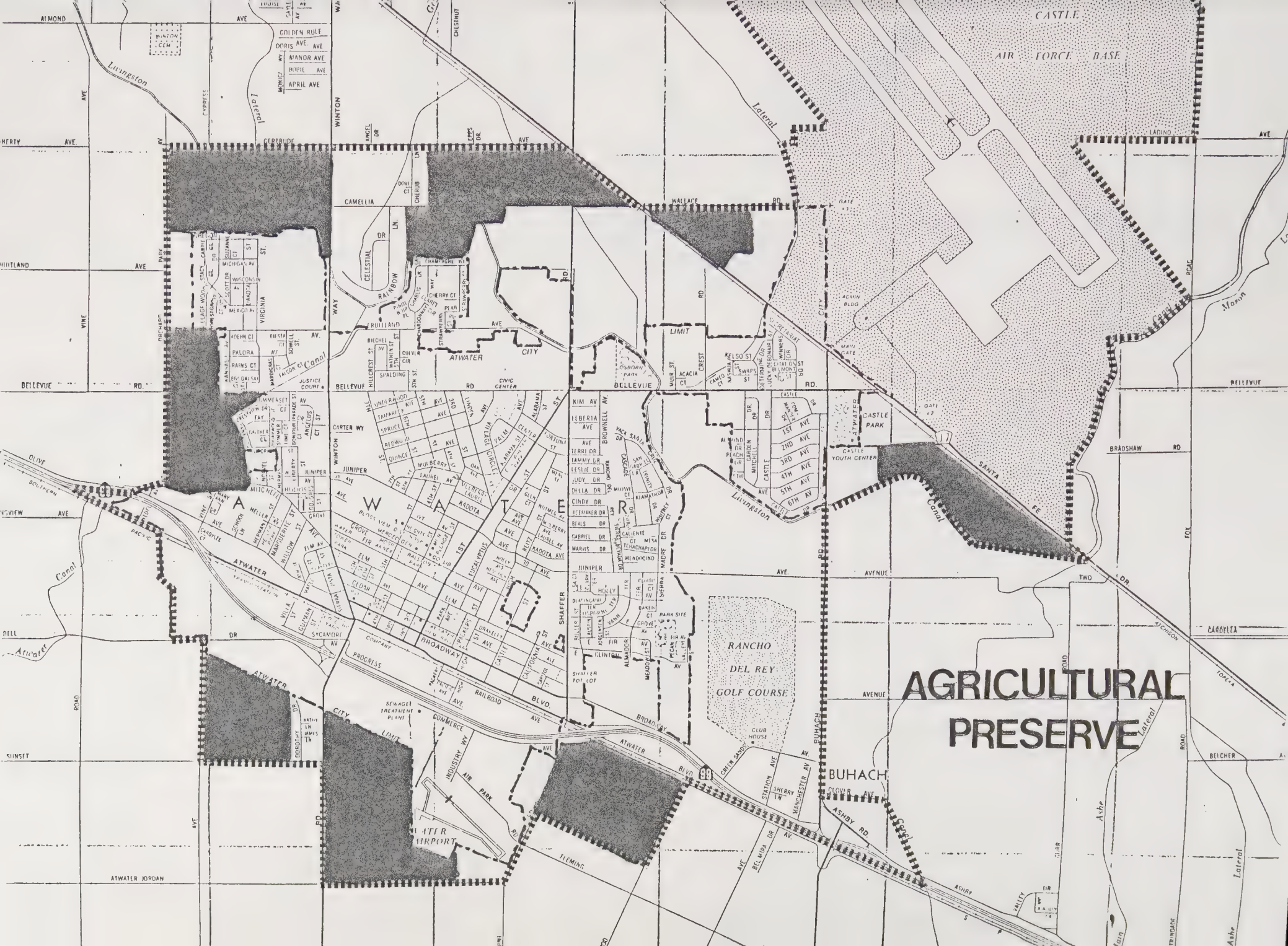


## AREA #23

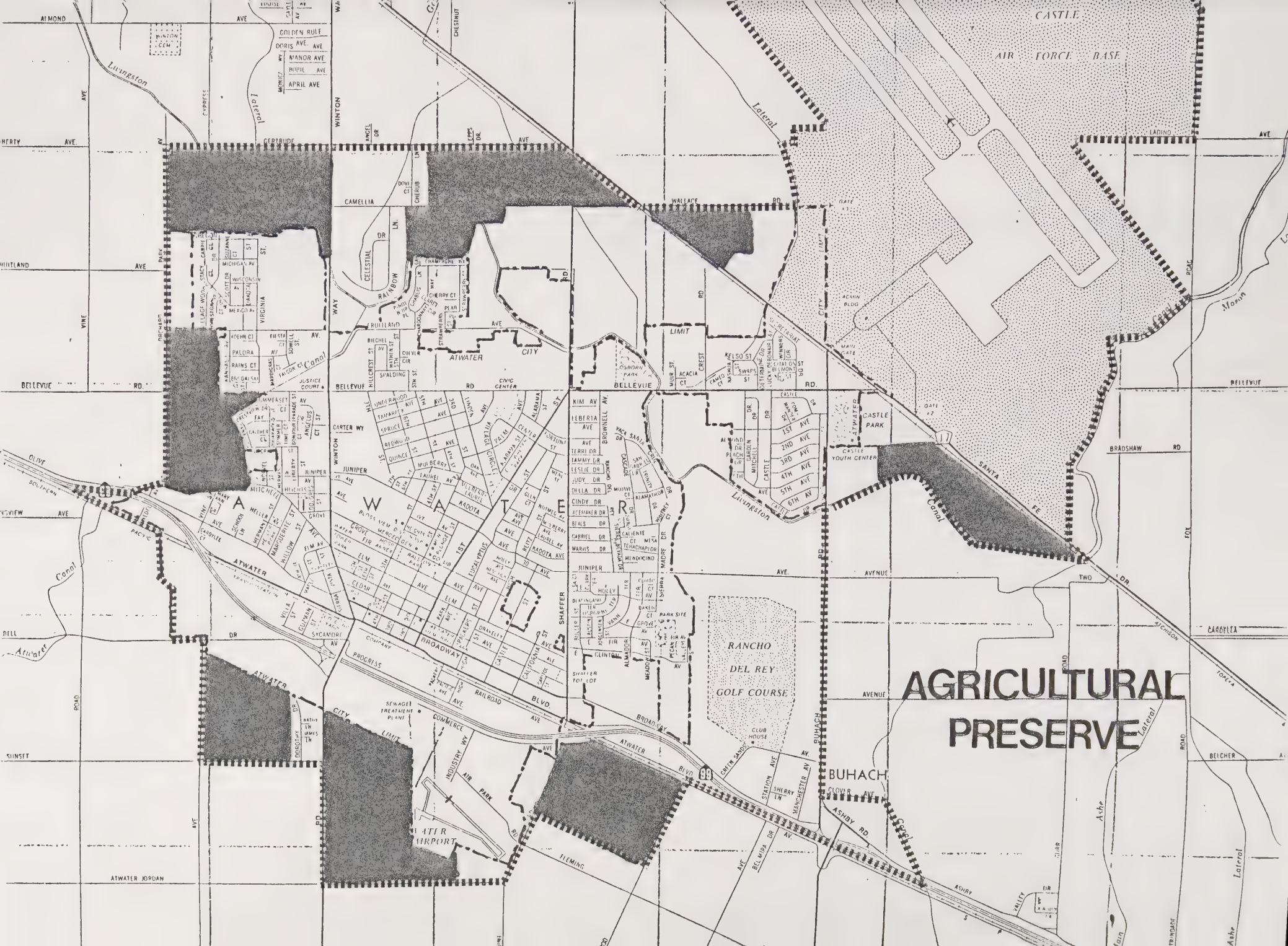
Existing land uses in this area have established the trend, and vacant parcels should be developed residential with densities listed below:

- A. This area shown as "A" is partly vacant, partly developed with mobile home parks. It should be allowed medium density development, not to exceed one unit for every 3,000 sq. ft. of land.
- B. The density recommended for this area "B" is not to exceed one unit for 2,000 sq. ft. of land. Several lots have been zoned for a higher density, and shall be included in the same medium density zoning, in order to prevent other exceptions in the area. The result of this high density was that the lots are paved for parking, and the children are playing on the road. It does not provide a healthy environment for families.
- C. Area "C" is developed as a low density single family residential subdivision, and shall keep the same zoning.

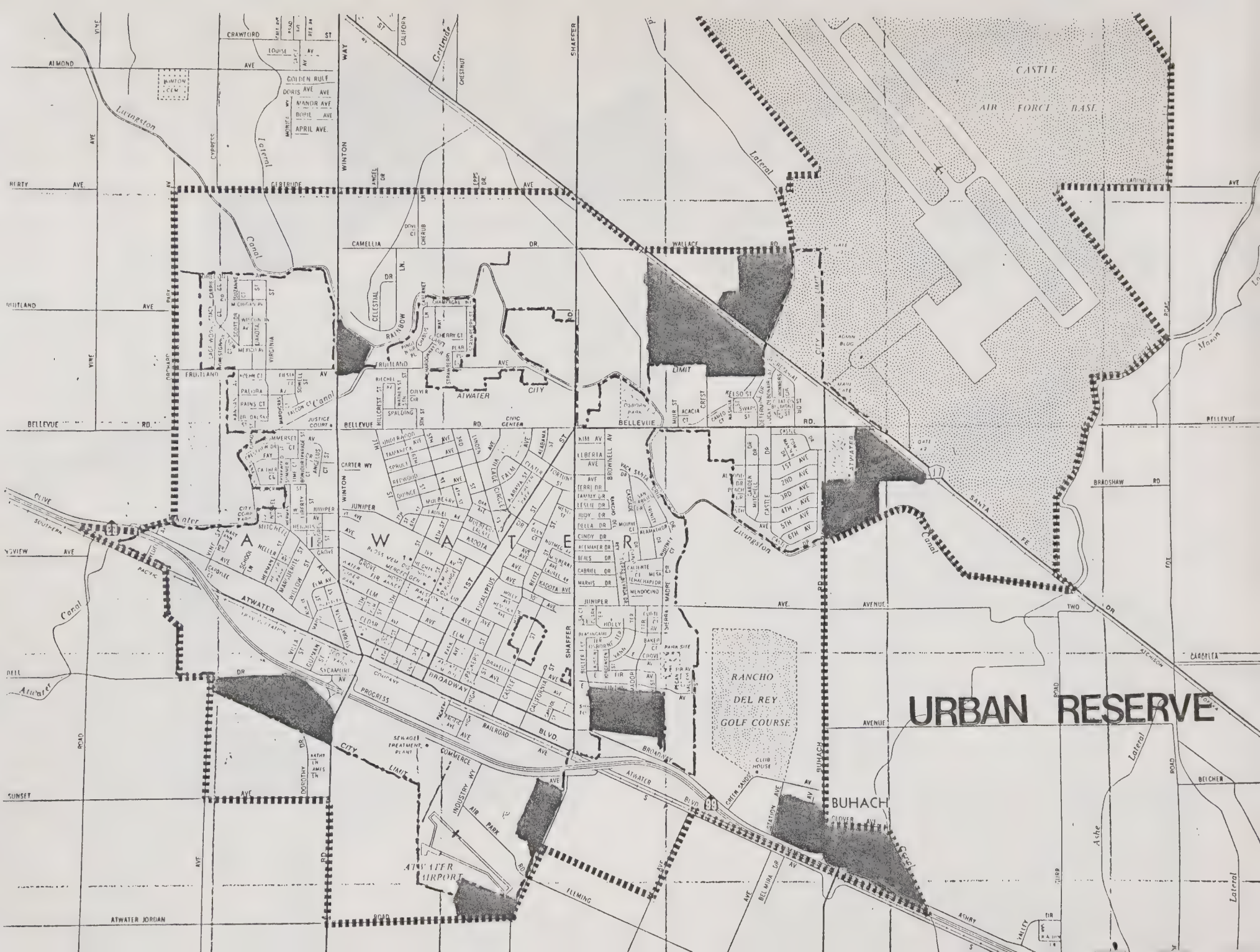




# AGRICULTURAL PRESERVE







# URBAN RESERVE

URBAN RESERVE





CASTLE

AIR FORCE BASE

**ADDITION  
TO S.U.D.P.**

RANCHO  
DEL REY  
GOLF COURSE

BUHAEH

AIRPORT





**IMPLEMENTATION**



## ZONING CONSISTENCY WITH THE GENERAL PLAN

It is important to recognize that the General Plan is not intended to be interpreted as a precise map, nor does it automatically change the classification or the permitted use of land. This function will continue to be served by the Zoning Ordinance and Zoning Map, which are tools for the implementation of the General Plan. Instead, it serves as a pattern and guide for future orderly growth and development of the City. It serves as a basis upon which the Zoning Ordinance and other land use regulations can gradually be revised and adjusted to reflect the unified and coherent development policy.

Finally, it must be recognized that the General Plan recommendations encompass a time span extending to the year 2001. It is not expected, nor it is desirable, that all its proposals be implemented or translated into zoning immediately. Therefore, uses of a lesser intensity than indicated in the General Plan are, in most instances, entirely consistent and compatible with the General Plan until such time as development trends, the needs of the City, and the ability to provide adequate public services indicate the suitability of the ultimate use.

The General Plan will be a frame of reference against which proposals brought forward may be evaluated; it provides a guide for orderly public regulations of land use; it provides a basis for long range programs governing public capital expenditures. It should be reviewed each year and revised as needed, in order to reflect changing conditions which were not adequately recognized at the time of initial preparation. Failure to do this will soon render it ineffective and useless as a policy tool of the City Council and advisory commissions.

## ORDER OF IMPLEMENTATION

1. Preparation of a Land Use Map as approved by the City Council with this General Plan, and printing of revised pages.
2. Revision of Title 17 of the Atwater Municipal Code (Zoning Ordinance)



to achieve mandated consistency.

3. Revision of Title 16 of the Atwater Municipal Code (Subdivision Ordinance.
4. Initiate Zone Changes where inconsistent.
5. Initial Pre-Zoning of "Agricultural Preserve" and "Urban Reserve" zone districts.
6. Revise any other resolutions or ordinances inconsistent with this Plan.
7. Create procedures, guidelines and standards.
8. Review this General Plan for compliance not later than March of every year before preparation of the budget; prepare report to City Council.
9. Write new Elements as required by this Plan.
10. Revise existing Elements as new information becomes available or changes are made in State or Federal laws.

Concurrent with all of the above, apply for a revision to the County's General Plan, in order to get the Urban Expansion Boundary amended.

**E.I.R.**



CITY OF  
**ATWATER**  
**GENERAL PLAN**

1981 - 2001

FINAL

**E.I.R.**





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Responsible Official:



## S U M M A R Y

During environmental evaluation of Atwater's proposed General Plan 1981-2001, and after thorough review of all comments received during the review period, the following findings have been made:

### No Significant Adverse Impact On:

1. Surface water in natural waterways
2. Plant or animal life or habitat
3. Water erosion
4. Exposure to geologic hazards
5. Solid waste disposal

### No Significant Adverse Impact With Mitigating Measures Applied:

1. Increase in ambient temperature
2. Additional traffic or traffic hazards
3. Changes in absorption rates, amount of runoff
4. Impact on schools
5. Location of sensitive buildings within Castle's noise contours
6. Water quality, if connected to City water system
7. Wind erosion

### Significant Adverse Impact that can be Reduced to a Less Significant Level through Mitigating Measures Incorporated:

1. Impact on municipal facilities, utilities and services
2. Increase in air pollution

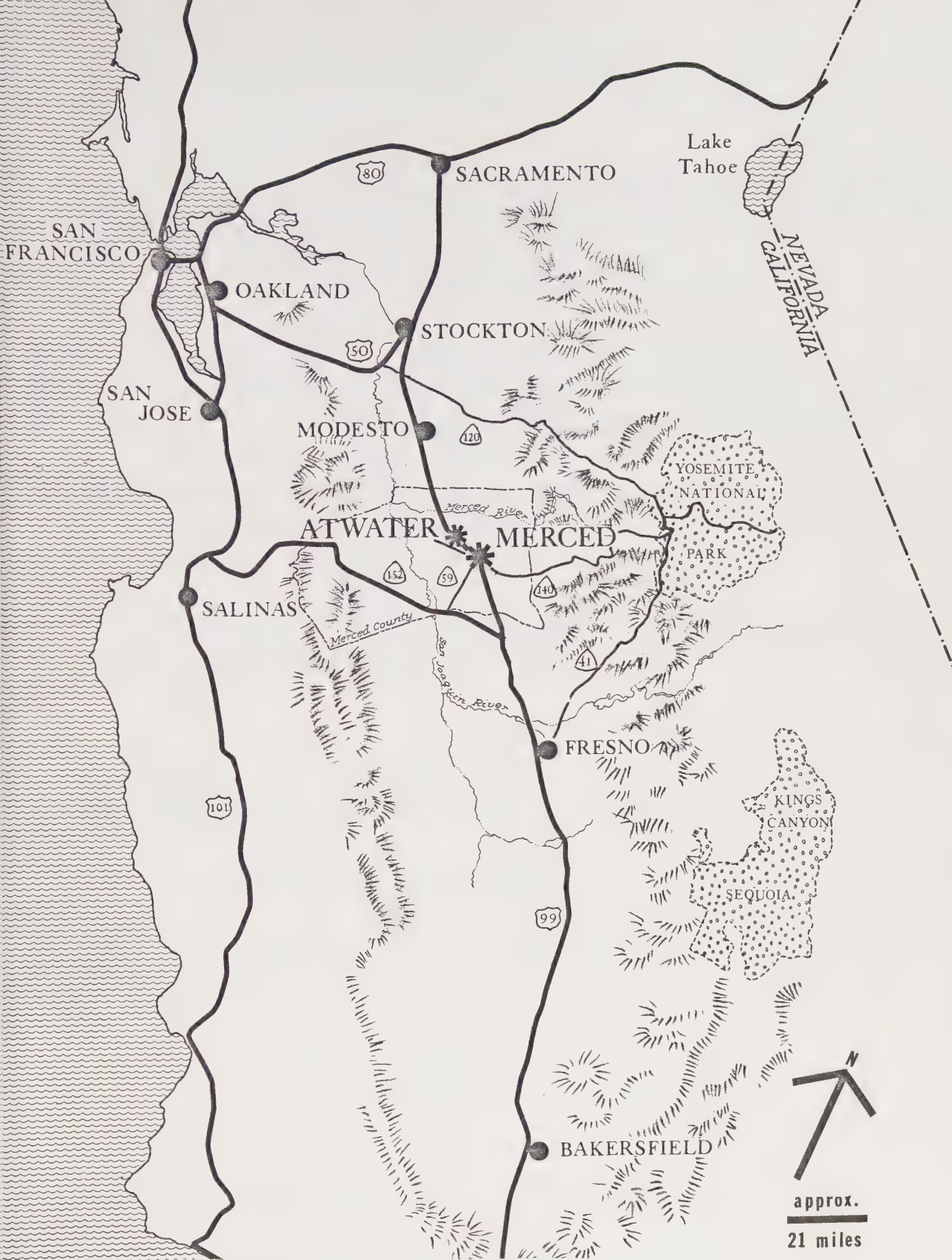


Significant Adverse Impact:

1. Additional pollution of ground water, if development with individual septic tanks is not prohibited

Significant Adverse Impact That Cannot be avoided:

1. Population growth
2. Loss of about 80 acres of prime agricultural land (Class II soil), and loss of agricultural land that is less than prime
3. Reduction in water quantity
4. Reduction of natural resources



## I. ENVIRONMENTAL SETTING

Atwater is the second largest city in the County of Merced, located in the San Joaquin Valley. For more information see Chapter A of this proposed plan: "Atwater and It's Neighbors".

The environmental constraints relevant to the Atwater area are covered under the "Issues" in this General Plan, Chapters C through G, and are broken down into the following subtitles:

Environment                      containing all issues relevant to the City, and which are discussed in detail in the Open Space, Conservation and Scenic Corridor Elements.

Hazards                              covered in detail in Atwater's Safety, Seismic Safety and Noise Elements.

Social and Economic Issues

Infra-Structure                  includes public utilities and facilities and details in the Circulation Element

Development                      Land Use and Housing Elements

The following Elements of the General Plan are being updated with this General Plan Revision:

Safety	Scenic Corridors
Seismic Safety	Land Use
Noise	Circulation

The other three are under revision: Housing, Open Space and Conservation.

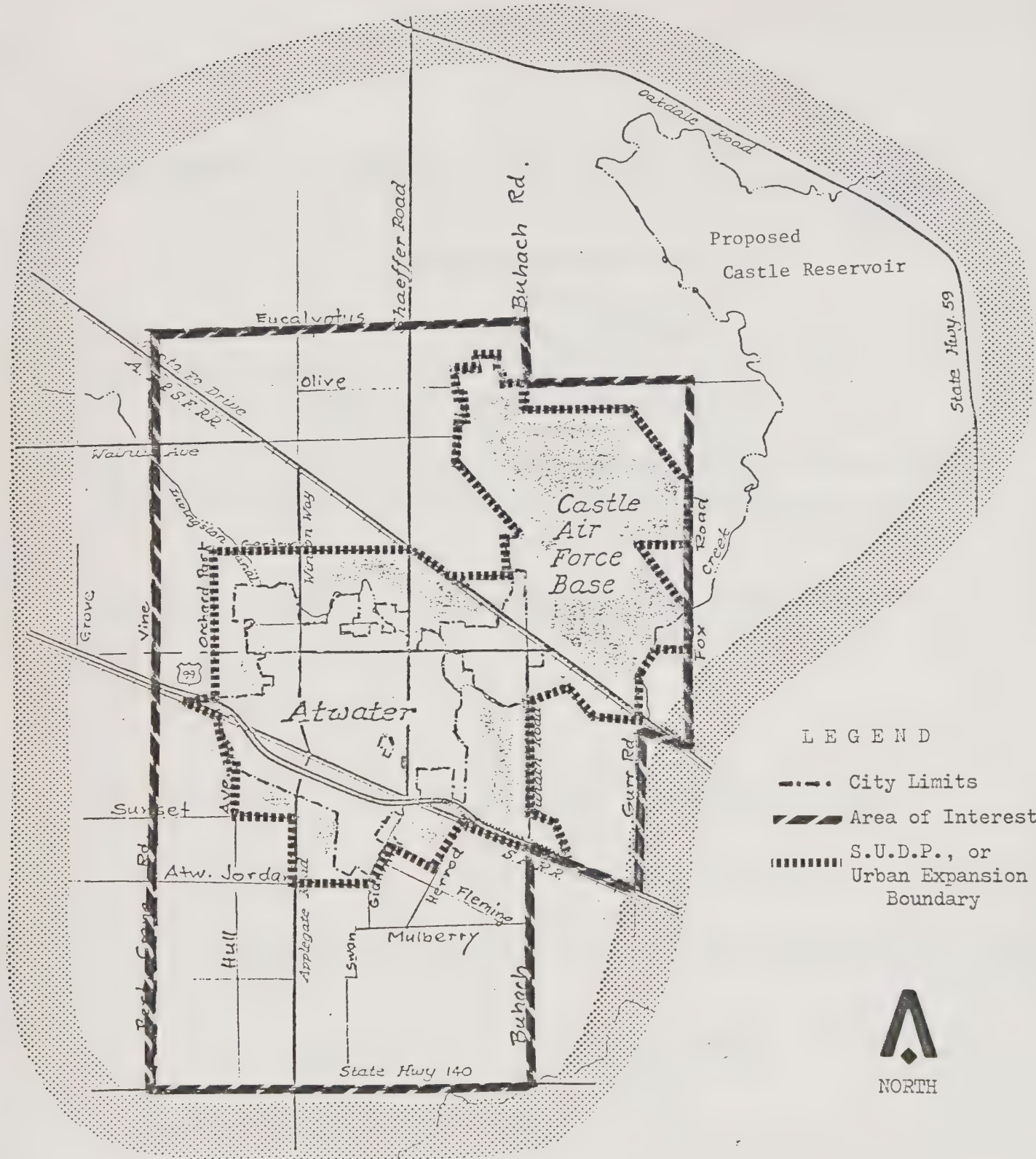
This General Plan requires preparation and adoption of the following new elements:

1. Public Facilities and Utilities
2. Economic Element
3. Community Appearance
4. To add "Energy", "Water" and "Resources Recovery" to the adopted Conservation Element.

The proposed General Plan 1981 - 2001 is consistent with all regional plans as far as could be determined by staff, and no comments were received to the contrary.

There are no rare or endangered plant or animal species in Atwater's area.





# ATWATER PLANNING AREA

## II. DESCRIPTION OF THE PROJECT

The City of Atwater presently encompasses 2,647 acres of land, holding a total population of 18,270. The density on the developed residential land averages 6.22 dwelling units per acre, with an average of 2.85 persons per household (pph).

Issues, goals and policies of this General Plan revision are listed throughout the plan, and are presented in a brief summary on the following pages.

### A. Requested Addition to the Urban Expansion Boundary

The boundary of the Urban Expansion Area was established by LAFCO several years ago, allowing for no industrial expansion south of the freeway. This General Plan is requesting LAFCO's approval for an additional 654 acres at the following locations:

1. 421 acres (net) are requested south of the freeway, adjacent to the City's boundary. About 41 acres of that land are rural residential development, approximately 180 in orchards and 200 in pasture or row crops. The proposal is to protect that land from more rural residential developments by keeping it as "Agricultural Preserve", earmarked for light industry sometime in the future when the need for expansion requires conversion to urban use.
2. The addition of 32 acres is requested east of Buhach Road, to include the freeway entrance on both sides of Ashby Road. The area is presently in industrial zoning in the County, but most of the acreage is still vacant. Proposed for the area are highway-oriented commercial uses, which are more compatible at a major entrance to the City, that provides direct access to Rancho Del Rey Golf Course, Castle Air Force Base, and the Castle Air Museum.

This entrance to the City, as well as Buhach Road, are de-

signated "Scenic Corridors" in the Scenic Route Element of Atwater's General Plan.

3. A third area proposed to be added to the Urban Expansion Area consists of 121 acres east of Buhach Road and Castle Park, south of Bellevue Road, between Livingston Canal and Santa Fe Drive. The Atchison Topeka and Santa Fe railroad tracks run adjacent to this land, which is very desirable for industrial uses. Several acres near the Bellevue/ Sante Fe intersection could be considered for a commercial development which draws on tourists coming to Castle or the Air Museum. Motels and restaurants may be allowed at that location. Twentytwo acres of those 121 acres are fronting on Buhach Road, and are designated for future residential development when City utilities are available, at not more than ten units per acre. The same land is zoned R-1 in the County. Most of the 121 acres are presently pasture, divided by an orchard. The City is proposing to keep most of the 90 acres as Agricultural Preserve, until no longer feasible for the property owners, at which time the City may consider pre-zoning and annexation.
4. An additional eighty acres are requested to be included in Atwater's Urban Expansion Area. They are bounded on the north by Wallace Road, on the southwest by Sante Fe Road, and on the east by the present City boundary, which encloses part of Castle Air Force Base.

This area could be serviced by Atwater utilities, but it would be extremely expensive to extend lines under the railroad tracks and Sante Fe Road. Mini-warehouses are proposed on part of that land, to be easily accessible to Air Force personnel for storage of household goods, recreational

vehicles, and similar. Another possible use is for the expansion of the display area of the Castle Air Force Museum, which is located inside City Limits, adjacent to this site.

Only non-intensive industrial or commercial land uses will be permitted in this area.

5. The largest area to be added is Castle Air Force Base, all 2,570± acres. Castle is not only located adjacent to Atwater's City limits, but a part of the base (where the hospital, air museum and student dormitories are) has been inside the incorporated boundary for many years. It is the desire of the Atwater citizens, who were represented by 41 people appointed to the General Plan Review Committee, to annex all of the base. Justification is as follows:
  - a. The present agreement between the City of Atwater and Castle Air Force Base states that the City will in no way interfere with the Air Force, and will not try to enforce any of the City's ordinances or regulations on U.S. Government property. This agreement would be extended to cover all of the base, if annexed, plus any other condition the Air Force desires, which is of mutual benefit.
  - b. Castle would not require City utilities or services of any kind because they have the water and storm drainage facilities, sewage treatment plant, police, fire and trash pickup. A mutual aid agreement, between the City and the base, to provide fire and police services upon request has been in existence for many years and benefits both entities.



- c. All governmental properties are exempt from paying taxes, and there would be no additional expense to the Federal Government after annexation.
- d. The City of Atwater appreciates the presence of the base and the impact of the payroll on the County's economy; however, the Air Force released an economic report, based on data of March, 1980, showing that there are
  - 1,908 military personnel living inside Atwaters City limits,
  - 845 retired military personnel, and
  - 5,724 dependents, for a total of
  - 8,477 military-connected population.

That represents 46% of Atwater's total population with "base privileges", people who are authorized to use all base facilities, including hospital and medical care, as well as shopping in the commissary or base exchange.

While most of the people support local businesses, any interested company doing a market research in our area will automatically subtract most of those 8,477 people from the trade area population. Commercial businesses hesitate to invest in an area where they may not get enough support. In the meantime, the sales leakage to Merced continues.

The reason for Atwater's interest in annexation of Castle Air Force Base is the additional population gain of personnel residing on the base, and the additional state subventions the City could get per person. This would eventually be felt in revenue sharing and grants for parks as well.

B. Infill

There are a total of 553 acres of undeveloped or underdeveloped land inside City limits, 43 percent of them, or 238 acres, zoned for residential development of differing densities. Assuming that the average density on those 238 acres is 6.0 dwelling units per acre, there would be room for 1,428 units. 814 of those projected units have received City Council approval, but no occupancy permit has been issued yet, and only 71 of those 814 units are presently under construction (June 1981). At three persons per household (pph), the "infill" could add approximately 4,284 people, for a total of 22,554 population inside the present incorporated area.

There are 122 acres of vacant land designated for different commercial land uses, and 193 acres for light industrial development.

Infill is stressed in the policies as having highest priority when approving development, because it meets all economic, social and environmental goals and issues discussed in this general plan. Infill is also the number one priority adopted by the State in their "Urban Strategy".

Renewal, rehabilitation, and maintenance of existing structures is included in this priority.



**VACANT OR UNDERDEVELOPED**  
**553 ± ACRES**



C. Primary Growth Area

1007 acres are included in the Primary Growth Area, comprising those properties that can be considered for annexation and development if the wastewater treatment plant gets expanded to a capacity of 6.0 MGD (million gallons per day). More about this expansion is described under issues "Infra-Structure", Chapter "F".

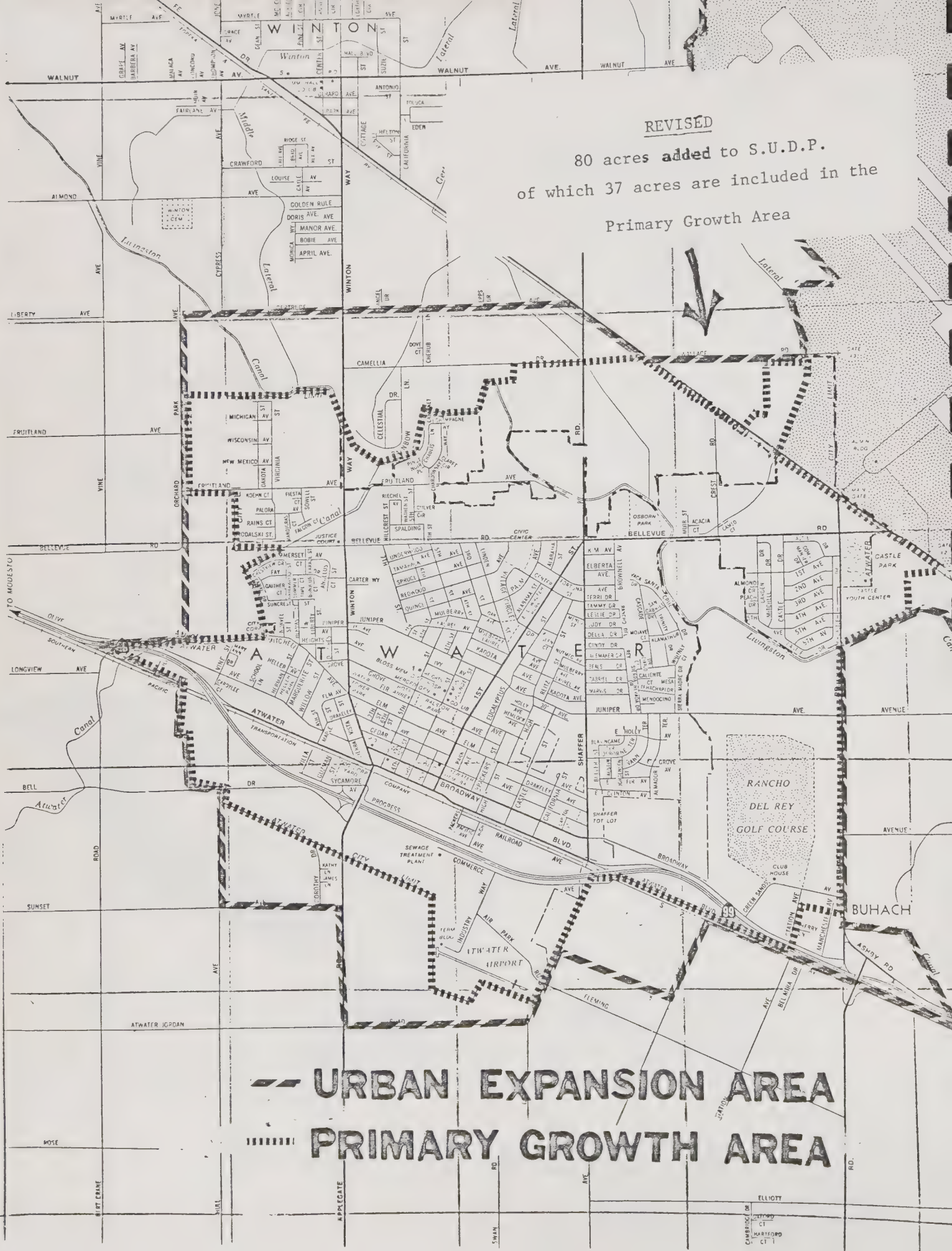
The Sphere of Influence, called Urban Expansion Boundary in this plan, contains a total of 2026 acres (without Castle Air Force Base), of which 935 are set aside as "Agricultural Preserve," and 108 acres are already designated by the County for rural residential developments (minimum lot size one acre). The 970 acres designated as primary growth area are proposed to be designated for the following land uses:

Residential	520	acres	
Commercial	68	"	
Industrial	32	"	
Public or Open Space	153	"	(which includes 119 acre Golf Course)
Urban Reserve	<u>222</u>	"	(some commercial, mainly industrial)
TOTAL	995	acres	

The assumption that the treatment plant will be expanded to 6.0 MGD has been the major influence in determining the primary growth area.

The City does not have the financial capability to spend approximately \$3.0 million for this expansion. If grants are not available, this expansion cannot be undertaken. There is enough capacity, however, for the existing units inside the corporate boundary,





REVISED

80 acres added to S.U.D.P.  
of which 37 acres are included in the  
Primary Growth Area

--- URBAN EXPANSION AREA  
||||| PRIMARY GROWTH AREA

plus the 914 dwelling units already approved but not yet connected. With some minor improvements, the existing capacity will be sufficient for "infill on vacant properties inside City boundaries.

To preserve as much agricultural land as possible, the density for residential development has been set as an average of 8.0 dwelling units per acre for the still vacant 496 acres. When built up, this would add 3,968 units, and at 3.0 pph it would generate approximately 11,904 additional population.

### III. IMPACTS FOUND NOT TO BE SIGNIFICANT

#### Impact on Surface Waters

No impact is expected on quantity or quality of surface waters, because there are no natural waterways in the area, only Merced Irrigation District canals and ditches.

#### Impact on Plant or Animal Life or Habitat

The plan requires preservation of existing trees. No rare or endangered plant or animal species are living in this area. Birds and rodents will find a new home soon in the trees and shrubs planted after development.

#### Water Erosion

Water erosion is not found in this area because the land is almost level.

#### Exposure to Geologic Hazards

Exposure of people to geologic hazards does not apply, because there are none existing in our planning area. Ground failure caused by seismic groundshaking will be mitigated through the building code requirements.

### IV. SIGNIFICANT ENVIRONMENTAL EFFECTS OF PROPOSED GENERAL PLAN

Assuming that the affected property owners sign the petition for the sewer assessment district, the significant environmental impact caused by developing those identified 995 acres is expected to be as follows:

1. Increase in population of about 12,000 people over the next 20 years;

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Also refer to the initial study, the Environmental Checklist Form on pages N-35 through N-41 of the Draft EIR.

2. Use of approximately 80 acres of prime agricultural land, Class II soils, for urban development;  
Use of about 615 acres of Class III soils, which are not considered to be "prime agricultural land", but they are presently in agricultural use for vineyard, orchards, pasture and row crops;
3. Reduction in water quantity;
4. Additional pollution of groundwater if development with individual septic tanks is not prohibited;
5. Reduction of natural resources, including energy;
6. Increase in wind erosion during construction;
7. Increase in ambient temperature;
8. Additional traffic and associated hazards;
9. Changes in absorption rates, drainage patterns, amount of surface runoff;
10. Impact on municipal facilities, utilities and services;
11. Increase on school capacity;
12. Increase in noise is not expected to be of significant adverse impact, but a part of the Primary Growth Area is located within the noise contours of Castle Air Force Base.
13. Increase in air pollution.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE SIGNIFICANT IMPACT

1. Population Growth

There is no mitigation possible against the population growth if this plan is implemented, and public utilities are available.

2. Loss of Prime Agricultural Land

There is no mitigation possible to avoid the loss of prime land and acreage of agricultural crops on less than prime land. The land will be lost for decades, and probably forever, if this plan is implemented.



3. Water Quantity

It is believed that the people who are going to settle in Atwater, would come to the general area anyway. If our community has no housing available, they might move to Merced, Winton, or the unincorporated area. Water reduction caused by that population would probably occur from the same groundwater basin, and should not be considered a possible significant adverse impact when included in Atwater's boundary. Permanent reduction is unavoidable, since the groundwater in the San Joaquin Valley has been overdrawn by 1.5 million acre/feet per year.

Mitigation

Effluent from Atwater's sewage treatment plant is presently being used for agricultural irrigation. Other water conservation measures need to be identified and enforced, in cooperation with the State Department of Water Resources.

4. Groundwater Pollution The existing pollution of the groundwater by Nitrates, DBCP and TCE (Trichloroethylene) has been covered under Issues of the General Plan. Comments received from the State Health Department, (attached), include the following:

"... It is quite possible that numerous private wells have not yet been tested. Many of these untested wells could be high in DBCP and possibly nitrates. We strongly agree that all private wells to be approved in the future must be carefully drilled to avoid possible DBCP and/or nitrate contamination hazards. This may require much deeper well construction than used in the past when only quantity, rather than quality, was the main consideration. The extent of the organic groundwater contamination around Castle Air Force Base (now known to exist both on and off the Base) has not yet been fully documented. We agree

that this still undefined problem should be taken into full consideration when approving new private wells in this general vicinity and in the vicinity downstream (groundwater flow direction) from the wells known to be affected."

"We endorse the first paragraph recommendation to keep septic tank construction around the periphery of Atwater to a minimum. This constitutes good planning as it maximizes groundwater quality protection not only for individual well owners but also the wells operated by the City of Atwater...."

"The use of septic tanks inside City limits, or in the Urban Expansion Area, shall be prohibited in order to prevent contamination of groundwater." This paragraph should not be deleted for reasons already mentioned."

"We agree with keeping future private well construction around Atwater to a minimum. Developers should tie into the City water system or provide small community water systems that can later be connected to the City water system when the City system is extended into outer areas in future years. Developers may oppose this recommendation because of costs but it constitutes good planning and provides health protection for the general public who otherwise drink water from private wells. Such wells are not periodically inspected and monitored for quality by health department personnel."

"For protection purposes of the City of Atwater's groundwater supply, the City should have concerns on the construction of package sewage treatment and percolation facilities. This is especially true if such facilities are

constructed upstream of the City's water wells. Such facilities can also adversely impact nearby private wells."

"The construction of many private sewage disposal systems and package sewage treatment plant and disposal facilities could have a significant impact on water quality to both the City and rural private wells."

"Add possible water degradation under significant effects if private sewage disposal systems are allowed. Add mitigation measures for water quality protection as sewerage to the City system."

".. prevent the proliferation of numerous private sewage disposal systems in and around Winton and near Atwater."

#### Mitigation

To allow development only, if connection to the City's water and sewer system is being enforced.

If a new well is to be drilled, a test well shall first be carefully drilled and tested for DBCP, nitrates, and trichloroethylene, to determine what construction features are necessary to assure that the new well will yield water of acceptable quality for domestic use.

#### 5. Reduction of Natural Resources

Reduction of natural resources used for construction cannot be mitigated.

#### Reduction of Energy

This item is listed separate from number 5, because mitigation measures have been incorporated into the policies of the plan, which will avoid the waste in energy consumption. The permanent reduction, however, cannot be avoided.

#### Mitigation

- a. Prohibiting urban sprawl and leap-frogging;
  - b. Denser urban development using smaller land area through planned developments, narrower streets, smaller lots, zero lot line, less setback requirements for buildings, allowing a second single residence in single family zones, if the lot is larger than the minimum required for two units;
  - c. Allowing mixed uses, bringing the homes closer to shopping and workplace;
  - d. Requiring bike lanes;
  - e. Prohibiting swimming pool heaters other than solar;
  - f. Passive solar. Requiring construction and "siting" of buildings to take advantage of the sun and wind;
  - g. Requiring the planting of deciduous trees, shade trees that prevent the rise in temperature over paved areas, keep shade over buildings, but let the sun shine in during winter months.
6. Wind erosion is a big problem in this area, and contributes to air pollution by adding particulates.

Mitigation The General Plan requires that all vacant land be planted with grass or similar groundcover, to prevent wind erosion and deterioration of the air quality. During construction, the ground shall be kept damp enough to prevent blowing dust.

#### 7. Increase in Ambient Temperature

##### Mitigation

Increase in ambient temperature can be prevented, or mitigated, by the planting of shade trees wherever possible. Should be required with every building permit.



8. Additional Traffic and Traffic Hazards

A total of 3,968 dwelling units can be built within the Primary Growth Area, some single family, some apartments. According to the California Department of Transportation, CalTrans, a single family home generates an average of 9.5 ADT (average daily trips), an apartment 5.7 ADT. Using the common factor of 8.5 ADT, because there will be more single family homes than apartments, approximately 33,728 average daily trips will generate from a completely built-up PGA (Primary Growth Area). That, however, does not include any industrial or commercial land uses, nor drivers coming in from other areas. The City presently has 6,421 dwelling units. Adding the ADT from the proposed units to the existing ones, about 90,000 average daily trips will be taken in Atwater.

Major arterials in Atwater have four traffic lanes each, two lanes in each direction. Rarely does a traffic lane on an urban arterial carry vehicle volumes at a greater rate than 2,000 passenger cars per hour when no traffic lights or other devices slow down the traffic. A line of vehicles, all of which are stopped by an interruption, will rarely move away from the interruption at a rate greater than 1,500 passenger cars per hour per lane. Since all Atwater arterials are interrupted by traffic lights at one mile intervals or less, we can count on accommodating 1,500 cars per lane per hour only, or 6,000 cars per hour for every arterial. The City's arterial road system is expected to be sufficient to carry the expected increase in traffic.

Mitigation

Additional traffic can be mitigated by public transportation. At the present time, the dial-a-ride program serves the needs within Atwater. As more people settle in our community, a better transportation program will need to be evaluated and implemented.

Increase in traffic hazards can be mitigated. Mitigation measures will have to be evaluated individually for every proposed project, and will have to be made a part of each project.

A median barrier along parts of all major arterials should be considered, to enforce "right turn only" measures for elimination of traffic hazards.

9. Changes in absorption rates, drainage patterns, amount of surface runoff

These changes are unavoidable when an open area is converted to urban land uses, but will be mitigated as determined during environmental evaluation of individual projects.

Mitigation

There are different mitigating measures that can be applied, depending on the location or size of the project. Examples of measures: tie in to municipal storm drainage system; get a percolation basin; get a retention basin for a temporary period of holding the runoff, then pumping the water into the MID canal or into the City's drainage system. A natural pond or lake, which serves for recreation purposes, could also hold storm water and serve two purposes. Applicable measures will be determined during project review.

10. Impact on Municipal Facilities, Utilities, and Services

Police and Fire Departments require one additional man for about every 1,000 increase in population. After fully developed, that would mean 12 personnel per department. The impact of the development itself, and the services and maintenance after development will put a strain on the present staffing, and will need to be mitigated. One of the General Plan policies requires a cost/benefit study for every annexation or larger development inside City limits. Mitigation will need to be determined at that time. Without the revenues coming in for needed maintenance, repair, replacement of sewer, water and storm drain lines, street resurfacing, street lights and electric bills, the City cannot afford to take care of new developments.

Mitigation

More assessment districts will need to be formed, to have the benefiting people pay their own way, if it serves a certain area and not the general public.

Whenever possible, private streets should be permitted. For instance, in Planned Developments. Property owners will have to maintain the streets in their own development.

Alleys in residential areas should be abandoned if not needed. In commercial areas, adjacent property owners should maintain them.

Lighting district may need to be formed.

City should not accept dedication of storm drainage basins and pumps, which serve only private development. Home owner association should defray expenses.

Planting and maintenance of street trees should be the responsibility of the property owners.

Other mitigating measures as felt necessary in order to prevent the use of taxpayers' money to finance needed improvements for new developments.

The total impact on municipal services cannot be avoided.

11. Adverse Impact on Schools by New Residential Developments

The accumulative impact of the residential units already approved by the City during the past four years, but not built or occupied yet, will bring the need for additional school classrooms to 12 in the Atwater Elementary School District. Any new approval of residential development, which would generate about 0.2 students from apartments, and 0.4 students from single family homes (according to the State Board of Education), would create a significant adverse impact on the school district. This was established with an E.I.R. for Atwater Estates Subdivision, 1979. The City Council at that time approved a revision to the environmental procedures, requiring every applicant for residential land uses to bring a statement from the school district that the proposed project would not create an adverse impact, or that the impact had been mitigated. If this statement cannot be provided, an Environmental Impact Report shall be prepared.

The High School District presently is busing students from as far as Merced Falls to the Atwater facility and has no capacity problems as of yet. The proposed population during the next twenty years will change that situation, and shall be evaluated with the environmental review for every annexation or development proposal.



### Mitigation

One of the policies listed in this General Plan, which was recommended by the General Plan Review Committee states:

"The City Council should enforce the adopted environmental procedures concerning mitigating significant adverse impact on schools by residential development. However, the Council should urge the school district to find means other than fees to mitigate adverse impact."

### 12. Noise

Part of the primary Growth Area is located in the noise contours of Castle Air Force Base, 65  $L_{dn}$  and above.

### Mitigation

All residential and sensitive buildings proposed to be located in the noise-impacted areas shall be required noise mitigation in construction as follows, and as has been enforced by the City for several years:

If located between the 65 - 70  $L_{dn}$  contour, the minimum level reduction of 25 dB shall be required;

If located between 70 - 75  $L_{dn}$  contours, the noise level reduction shall be 30 dB;

Above 75  $L_{dn}$  contour, reduction shall be 35 dB, but consideration should be given to prohibiting construction of residential or sensitive buildings all together.

13. Increase In Air Pollution

Atwater is located in the San Joaquin Valley Air Basin, which has been declared "Non-Attainment Area" for clean air standards concerning ozone and particulates. The projected population increase will have a significant adverse impact on the air quality in our area over the next twenty years, as described in more detail on the following pages.

Non Attainment Plan

The purposes of the non-attainment plan for Merced County are to:

- Meet the requirements of the 1977 Clean Air Act
- Identify the air quality problem and sources of pollutant emissions in Merced County
- Identify local and state control measures for emissions
- Commit the Merced County Air Pollution Control Board in the implementation of local control measures
- Request waiver of the requirement to meet the national standard by December 31, 1981
- Demonstrate reasonable further progress toward attainment of the standard by 1987
- Provide a healthy air environment for Merced County by the end of the century

Reduction of Vehicle Miles/Start-Stop

Reducing the total vehicle miles driven will help meet air quality standards. The location of convenience facilities to serve neighborhoods,

as shown in the General Plan, will help in this respect. In-fill development, concise urban boundaries, and orderly development, as proposed by the General Plan, will also help.

Another aid would be the better timing of signals to reduce start-stops on major arterials. Existing problems should be identified and corrected while future signalization should be interconnected, so that major thoroughfare traffic flows more smoothly. The General Plan calls for spacing of intersections with major thoroughfares to accomplish this. Also, scenic roads are proposed which should receive extended protection from side street/curb cut interference.

#### Establishment of Transit Facilities

The existing dial-a-ride system can help reduce emission in the planning area. The General Plan calls for expansion of this service coupled with careful land use decisions, to help make it work more effectively. (For example, pedestrian access, connection to major arterial, location of higher densities, etc.).

#### Non-Attainment Plan Measures

Many measures are included in the County's non-attainment plan. These are shown in Figures 1 and 2 in the appendix. Some of the primary ones are:

- Gasoline vapor recovery on gas pumps
- Limitation of organic solvent content of architectural coatings
- Substitution of low volatile organic, emulsifiable asphalts
- Annual inspection and maintenance program for motor vehicles

Without substantial reductions elsewhere, the annual vehicle inspection and maintenance program promises much help in reducing pollution.

#### Air Quality Monitoring

The State has recently ceased to monitor air quality in Merced County. Particulates are still being monitored by the County Air Pollution Control District. It could prove helpful to re-establish monitoring so that the effects of mitigation measures (such as transit, reduced air force operations) can be established. Without monitoring, it will be difficult to determine if air quality goals are being met.

#### Air Degradation Effects

Any increase in air pollutants in Atwater will tend to lower air quality in this community and in downwind communities as well. Any increases in photochemical oxidants and particulates will hinder attainment of state and federal ambient air quality standards. The effects are varied and affect health, living conditions, and crop production. For example, a publication from the State Office of Planning and Research (Crop Damage in the San Joaquin Valley, 1977) reports:

In 1976, for the first time, ozone air pollution injury to agricultural crops on the valley floor has been reported to be widespread. Also, in 1976, nearly every pine tree at the entrance to Sequoia National Park is reported to be showing symptoms for the first time.

In 1976, at least 80 percent of the total receipts for pollution susceptible crops grown in California were derived from crops grown in the San Joaquin Valley Air Basin. Based on a minimum estimated of one percent loss due to air pollution, San Joaquin Valley producers lost \$32 million worth of crops in 1976. . . .



Because of its natural characteristics, air quality control is a regional problem. Changes in pollution control devices, economic factors such as an oil embargo, new industry, and increased population all affect air quality control trends. Therefore, it is difficult to project the air quality characteristics into the future. In 1978, air pollution controls have reached maximum levels. Therefore, a decline in a projected oxidant peak hour level is expected from 1975 to 1980 in the San Joaquin Valley. From 1980 to 1985, the level may increase again due to the sheer increase in volume of cars expected. In the future, pollution control will depend upon the development of more efficient land use patterns which will minimize energy expenditure and yet provide an acceptable standard of living. The increased use of newer model cars with improved air pollution control devices will also help to slow down the expected air deterioration.

#### Sources of Air Pollution in the Local Area

##### Bay Area Smog

As discussed in the Safety Element and under "Issues, Chapter "D" of this Plan, this air basin is receiving the smog - and air pollution in general - from the Bay Area, which cannot be controlled through any mitigating measures in the valley.

##### Castle Air Force Base

Another factor causing excess of pollution is the training mission at Castle Air Force Base and the "touch and go" practice flights by B-52 and KC-135 student pilots. Mitigation for this military mission is exempt from local control, but will be partly accomplished by using flight simulators which are presently being built.

##### Agricultural Burning

The largest amount of particulates in our air is caused by agricultural burning which is under the control of the Merced County Air Pollution Control District. On rare occasions a "controlled burn" is permitted

inside City limits, which can only be done with a permit from the District, and full compliance with their regulations.

#### On-Road Motor Vehicles

Figure 3, "Sources of Major Air Pollutants (ROG) in Merced County", clearly shows the primary categories of emissions which form oxidants. The graph also projects what these might be in 1982, 1985 and 1987. A comparison of what the total emissions would be with or without control measures for these three years is also shown.

On-road motor vehicles are the second largest contributor of emissions, as shown on this graph. Since the projected population increases will consequently cause the proportionate increase in motor vehicles and resultant air pollution through emission, a more detailed evaluation is presented on the following pages.

#### Evaluation for Atwater - 1981-2001

##### Projected Traffic Generation:

Many factors and a lot of unknowns make accurate traffic analysis for the general plan fairly unreliable. Such factors as the growth rate, future price of gasoline, and alternative means of transportation are simply not known. Assumptions and generalities can be made, however, and in the absence of better techniques (such as a computer traffic model), rough estimates of future traffic volumes can be generated. Several comparisons can also be made between existing conditions and conditions which could exist in the future.

For this report, a three percent growth rate will be assumed and the year 2000 will be the time frame evaluated. Given these two factors, the population of the City would be about 32,000 in the year 2000. This is 1.75 times the present estimated population of 18,270.

#### Projected Vehicles:

The current number of registered vehicles in the County of Merced is 86,260 (DMV, April, 1980 - includes automobiles, motorcycles, commercial pickups and vehicles). This is two vehicles for every three people in the County. Assuming the County ratio is similar to that in the City, there are an estimated 12,058 vehicles now registered in Atwater. Assuming further that the ratio will not change much in the future, the 32,000 population in 2000 will have about 21,120 registered vehicles.

#### Location of Major Traffic Generators:

The General Plan proposes no new major traffic generator sites such as major retail, industrial or commercial. The plan proposes that the present sites be more fully developed as there is ample opportunity for expansion or better utilization. Only a few small neighborhood centers are proposed which might draw a limited amount of traffic from beyond the immediate neighborhood in which they are located. In the more distant future, the "industrial reserve" sites could be regarded as new generators. However, by the year 2000, there would still be limited need for these sites unless industrial absorption rates increase substantially.

#### Projected Trips:

A total of 3,968 dwelling units can be built within the Primary Growth Area, some single family, some apartments. According to the California Department of Transportation, CalTrans, a single family home generates an average of 9.5 ADT (average daily trips), and apartment 5.7 ADT. Using the common factor of 8.5 ADT, because there will be more single family homes than apartments, approximately 33,728 average daily trips will generate from a completely built-up PGA (Primary Growth Area). That, however, does not include any industrial or commercial land uses, nor drivers coming from other areas. The City presently has 6,421 dwelling units. Adding the ADT

from the proposed units to the existing ones, about 90,000 average daily trips will be taken in Atwater.

Carrying Capacity of Streets and Major Arterials in Atwater :

Major arterials in Atwater have four traffic lanes each, two lanes in each direction. Rarely does a traffic lane on an urban arterial carry vehicle volumes at a greater rate than 2,000 passenger cars per hour when no traffic lights or other devices slow down the traffic. A line of vehicles, all of which are stopped by an interruption, will rarely move away from the interruption at a rate greater than 1,500 passenger cars per hour per lane. Since all Atwater arterials are interrupted by traffic lights at one mile intervals or less, we can count on accommodating 1,500 cars per lane per hour only, or 6,000 cars per hour for every arterial. The City's arterial road system is expected to be sufficient to carry an expected increase in traffic. Speed limits are between 25-40 miles per hour.

Projected Emission:

In August, 1977, the Merced County Department of Environmental Health, Air Pollution Control District, issued the following emission figures:

"Using California Resources Board calculation methods, Environmental Protection Agency emission factors and adjustment factors, assuming a 200 lot subdivision with an average vehicular trip of three miles, and using the factor of nine trips per dwelling, the annual subdivision emissions were calculated:

TABLE I

<u>Pollutant</u>	<u>200-Lot Subdivision</u>		<u>1974 Inventory</u>		<u>Percentage</u>
Carbon monoxide	0.28	tons/day	200.8	tons/day	0.14
Hydrocarbons	0.028	"	37.5	"	0.074
Nitrogen Oxides	0.019	"	40.8	"	0.046
Sulfur Dioxide	0.00077	"	2.47	"	0.031
Particulates	0.0029	"	22.6	"	0.013"



It is a well known fact that the pollution from vehicular emission has improved considerably between 1974 and 1980, due to the lower emission factor in newer model light-duty, gasoline powered vehicles. For the purpose of this analysis, however, the 1974 emission of pollutants will be used as being identical with the 1980 emission figures.

TABLE II

IMPROVEMENT IN EMISSION FOR 200-LOT SUBDIVISION: (Tons/Day)

Year	CO	HC	NOX	SOX	PART
1974/80	0.28	0.028	0.019	0.00077	0.0029
1990	0.15	0.016	0.01	0.00077	0.0022
2000	0.12	0.012	0.008	0.00077	0.0021

POPULATION INCREASE IN DRAFT GENERAL PLAN 2001

If all services are available, the population can be expected to increase from the present 18,270 in 1981, to 34,458 by the year 2001, or 90 per cent. Dwelling units are expected to increase from 6,421 to 11,817 or 5,396 new D.U.s.

The 5,396 units represent an increase of 27.5 times the 200-lot subdivision considered in Tables IV and V and could add the following pollution to our area by the year 2000:

TABLE III

	CO	HC	NOX	SOX	PART
5,396 D.U.s	3.3	0.33	0.22 <sub>1</sub>	0.021	0.058
<u>Percent Increase over 1974 Inventory Listed Above:</u>					
	1.64%	0.88%	0.54%	0.85%	0.26%

Tables IV and V show statewide averages under different operating conditions, and are being used in this evaluation to show the increase or decrease in emissions expected during the next twenty years. The percentage of improvement is shown in Table VI, taking the average between different operating conditions and speed.

EMFAC6 EMISSION FACTORS - Statewide Average Vehicle Mix - July, 1981\*

TABLE IV

Operation: 21% cold start; 27% hot start; 52% hot stabilized

YEAR	SPEED miles	CO	HYDROCARBONS THC	NMHC	NOX	SOX	PART
1980	25	39.43	3.36	3.00	3.42	0.24	0.44 grams/mile
	40	26.14	2.26	2.01	3.81	0.24	0.44
1990	25	20.55	1.86	1.60	1.70	0.24	0.33
	40	13.63	1.20	1.03	1.93	0.24	0.33
2000	25	16.52	1.72	1.48	1.43	0.24	0.32
	40	10.95	1.11	0.95	1.64	0.24	0.32

\* Tables IV and V are excerpts from:  
 "Estimating Carbon Monoxide Concentrations for Hot Spot Analysis",  
 California Air Resources Board, Research Division, May, 1981

TABLE V

Operation: 50% cold start; 10% hot start; 40% hot stabilized

YEAR	SPEED miles	CO	HYDROCARBONS THC	NMHC	NOX	SOX	PART
1980	25	57.14	4.58	4.03	3.53	0.24	0.44 grams/mil
	40	39.12	3.16	2.81	3.95	0.24	0.44
1990	25	31.71	2.64	2.27	1.79	0.24	0.33
	40	21.76	1.80	1.54	2.02	0.24	0.33
2000	25	26.32	2.47	2.11	1.51	0.24	0.32
	40	18.07	1.68	1.44	1.72	0.24	0.32

TABLE VI

## IMPROVEMENT IN EMISSION (PERCENT)

Between 1980 and 1990

	CO	HC	NOX	SOX	PART
Average	46%	45%	49%	Same	25%

Between 1980 and 2000

Average	56%	49%	57%	Same	27%
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## Mitigating Measures as Proposed in the Draft General Plan

### Air Quality

Street trees shall be required along all streets because they improve air quality. Large shade trees are to be given preference over small decorative trees.

Trees shall be required as a buffer between residential developments for single families and commercial or industrial developments, major arterials, and land in agricultural use where chemicals are being used.

Trees shall be required in parking lots, one 15-gallon shade tree for every four parking stalls.

To lessen the emission of vehicle exhaust, the City should develop in a compact form. Vacant or underdeveloped land inside present City Limits should be developed ahead of new annexations, if possible.

A doctor's or a dentist's office may be considered in a strictly residential area, with no medical facility within at least one mile. A Special Conditional Use Permit may be granted if no adjacent neighbors protest the use during a public hearing or in writing ahead of the approval.

To reduce the dependency on automobiles, a small grocery store may also be considered under the same limitations listed for doctor's office. The store may carry only the most needed daily items for the immediate neighborhood and shall be open only during daylight hours.

A bikeway system should be developed, considering mainly Atwater High School and Castle Air Force Base as the destination.

Strip commercial zoning shall be prohibited.



Planned Unit development zoning shall be used as much as possible, to place commercial and service employment centers close to residential areas.

Amend subdivision ordinance to require dedication of improved bicycle lanes and/or improved bus stops, if applicable.

Every effort shall be made to bring people closer to jobs and shopping.

In commercial districts, apartments may be permitted on the second floor above the business for the following reasons: 1) To reduce the need for the business operator to travel to his home, heat or cool two buildings, thus saving energy and gasoline and preserving air quality and 2) People living in commercial districts would serve as a deterrent to crime.

To continue Dial-A-Ride as a transportation system for senior citizens and the handicapped, because it fulfills their present needs.

To study car pooling or van pooling between Atwater and Merced College, to cut down the exhaust from so many vehicles, each carrying only one person.

To allow narrower streets in subdivisions, and to create different zones and requirements to allow smaller than 6000 sq. ft. lots, less setbacks, zero lot line, allow patio houses and common wall between single family homes. This would help provide a denser development, thus use of less gasoline to get to certain destinations. At the same time, this would help 1) preserve more agricultural land; 2) save more energy; 3) protect air quality; 4) make the purchase price for homes cheaper because less land and less public improve-

ments are needed, and 5) children would live closer to school and would not require busing.

The City shall prohibit leap-frogging developments.

To prevent non-contiguous development, controls on timing of growth should be adopted, phased zoning or limits on the number of annual development permits.

The City shall allow industrial development only if it is not polluting the air, and is consistent with limitations imposed by State and/or Federal air quality standards.

And, again, plant trees wherever possible to improve our air quality.

Population projection for the City shall conform or be below the regional population projections, upon which the Air Quality Maintenance Plans and Non-Attainment Plans are based.

To comply with all measures that are included in the Non-Attainment Plans for our area to improve the air quality.

Develop a bikeway system and pedestrian facilities; require bicycle storage facilities in all parking lots.

Prohibit industrial development that is not consistent with the limitations imposed by State and Federal air quality standards.

To minimize the effect of air pollution on children and senior citizens, no new playgrounds, hospitals or convalescent facilities shall be located along major arterials. A future community center shall be located in a central location, enabling many people to walk to it.

Standards are to be developed for location and design of buildings, parking lots and streets, requiring a large number of trees to improve air quality.

Zoning controls in the industrial areas shall be based on performance standards with stringent restrictions on controls to eliminate nuisances associated with some industries, and to protect the community from toxic and other chemical hazards, pollution of the air, water and soil. Heavy water using or sewage producing industries should be strongly discouraged.

Agricultural land use should be retained to the maximum amount consistent with orderly growth of the community outside of the existing City limits.

Only those lands within the boundaries of the City shall be converted from agriculture to other uses, and only when permanent, fully adequate utilities and services are available, including but not limited to police, fire, schools, street access, parks, recreation, sewer, water and storm drain. As such utilities and services become available, development and annexation adjacent to and beyond the City may be considered.

By mutual agreement between the City and County, lands in the County presently being farmed shall be retained in agricultural zoning until the City can provide services and annex the area.

Start a Citywide landscaping program of streets and parking lots, requiring shade trees to reduce the heat, and improve the air.

Promote bicycle and pedestrian facilities, encourage public transportation and pooling, to conserve gasoline, and to protect air quality.

To conserve energy, many families are using their fireplace for heating purposes, which deteriorates the air quality by adding more suspended solids. Emphasis in new construction should be placed on active or passive solar:

Require siting, design and construction of all future residential, commercial and industrial buildings to promote energy conservation and use of solar energy, where possible.

Consider retrofitting existing public buildings with solar equipment.

Discourage all future installation of swimming pool heating devices using gas or electricity, but encourage use of solar heating.

Develop standards for compact urban form, and a land use pattern which reduces reliance on the automobile, and minimizes the length and number of vehicle trips. This shall be done through higher densities in certain areas, development of undeveloped or underdeveloped lands inside the present City limits, control on development and strict enforcement against leap-frogging, and certain mixed uses (as mentioned previously in this General Plan), to bring people closer to shopping or employment.

For the purpose of making new homes more affordable for more people, of conserving energy and preserving air quality, the following changes should be incorporated into the zoning ordinance:

1. New residential zones be created, requiring smaller lots;
2. Narrower streets in new residential developments;
3. Zero lot lines;
4. Patio homes;



Allow narrower residential streets, considering traffic to abutting properties as well as emergency vehicles, but discouraging through traffic. Plant shade trees 25-40 feet on center, to prevent build-up of heat.

Allow mixed land uses to a certain extent, as mentioned previously in this General Plan, for the purpose of avoiding the dependency on automobiles.

High density residential should be so located as to take advantage of major arterials and proximity to activity centers such as employment and shopping. Housing types should include the full range of multiple-family types, including modern mobile home subdivisions and parks, patio homes, garden apartments and townhouses.

Priority for development shall be to fill in "islands" existing within the already partially developed and served by public services and facilities. Emphasis shall be on upgrading and rebuilding older areas rather than consuming farm lands and other open spaces for development. The City shall aggressively pursue the elimination of all islands and land substantially surrounded by City limits.

Development shall only be permitted in previously undeveloped areas when: (a) the need for such development and its value to the community can be demonstrated to the satisfaction of the City; (b) the area is part of the incorporated City or immediately adjacent; and (c) all necessary public services and facilities are fully available.

Leap-frogging developments shall not be approved.

Urban sprawl shall be prohibited.

To keep the Dial-A-Ride system we presently have in the City for senior citizens and handicapped people, because it works well and fulfills their needs.

The City should develop a Public Transportation Plan and System when the need therefor warrants it and funding is available. As a gimmick to bring more visitors to Atwater, a horse and buggy transportation system should be evaluated, connecting downtown business core with Bellevue Road, Castle Air Force Museum, and other points of interest. Students, senior citizens, and the unemployed could earn a few dollars this way. No gasoline would be used, the air quality would not suffer and the system would easily be self-supporting. (Natural fertilizer is much better than chemicals and would find takers easily.)

A plan should be developed and implemented for car and van pooling for students going to Merced College.

Schools should be ideally located so that no student would have to walk more than one-half mile to school.

Busing students should be avoided as much as possible.

The City, County and MID should try to coordinate an agreement to use the MID easement on both sides of Livingston and Atwater Canals as bike and jogging paths. No motorized vehicles should be allowed.

A comprehensive system for bike paths shall be prepared and implemented connecting the Atwater High School and Castle Air Force Base with some major residential areas in the City.

Bike paths to be developed should also tie into the bike paths installed by the County on Winton Way and Shaffer Road.

City and School officials to work together to reroute the present bike path from Livingston Canal to Fruitland Avenue onto the High School property. Also, the school property should be used to extend the bikeway from Winton Way to the school entrance.

As shown in Tables IV and V, slower traffic generates more air pollution than faster speeds. It is, therefore, imperative to keep the traffic on Atwater's major arterials at a regular, smooth 40 mile speed, preventing any unnecessary slowdown or stop, by implementing the following:

Better coordination of traffic signals on major streets to allow more continuous flow of traffic.

Avoiding strip commercial development and/or numerous unnecessary curb cuts.

Major arterials should have controlled access, meaning minimum access from individual lots.

Special control in the form of an overlay zone shall be applied to all lots fronting on major arterials to insure proposed developments are an asset to the community, and that they do not adversely affect the flow of traffic.

Yearly Emission Reductions from Proposed Stationary Source Controls\* for Merced County

Control Measures	Description of Control	Yearly Cumulative Emission Reductions (tons/yr) <sup>1</sup>									
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Petroleum Marketing: <sup>2</sup>											
A. Phase I, Bulk Plant Throughput	Include vapor return lines, vapor recovery systems, submerged fill pipes.	48	49	50	51	52	53	54	55	56	57
B. Phase I, Service Stn. Bulk Drop		115	117	119	121	124	126	129	131	134	136
Phase II, Service Stations	90% or 95% vapor recovery on gas pumps. (Assume 90% impact.)	0	0	76	152	302	308	314	320	326	331
Organic Solvents:											
C. Architectural Coatings	Limit organic solvent content.	0	0	139	145	150	155	160	296	307	318
D. Degreasing	Guidelines on degreaser maintenance and operation.	0	0	0	0	82	84	85	87	83	90
E. Asphaltic Cutback	Substitution of low volatile organic emulsifiable asphalts.	0	0	0	0	234	239	243	248	250	454
F. Measures Requiring Further Study**											
1. Pesticides:											
a. Reduce Weed Oils	Use of replacement herbicides.	0	0	0	0	0	0	0	118	120	121
b. Reduce Pesticide Carriers	Further study into reducing amount of organics in pesticide carriers.	0	0	0	0	0	0	0	806	810	826
2. Reduce Crop Burning	Use of alternative disposal methods as market develops.	0	0	0	0	0	109	110	222	224	227
TOTALS		163	166	384	469	944	1,074	1,095	2,283	2,315	2,560

\*The impact of NSR is incorporated into the baseline emissions projections shown in Table 1.

\*\*These measures are not yet considered as reasonably available.

- 1982, 1985, and 1987 reductions were estimated considering technology and acceptance of proposals. Unless otherwise stated specifically, reductions for intervening years were linearly interpolated.
- It is assumed that Phase I implementation was completed prior to 1978. It is assumed Phase II will be at one-quarter implementation in 1980, one-half implementation in 1981, and full implementation in 1982.
- The emission reductions for degreasing include the control of degreasing operations at Castle AFB.

Figure 1  
Stationary Source Controls  
Merced County Air Quality Plan



# Stationary and Mobile Source HC Emission Reductions (tons/year)

## Option I: Change of Ownership MVIP and Stationary Source Controls

Control Measure	Description	Yearly Cumulative Emission Reductions (tons/year)									
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Change of Ownership MVIP	Assumes 20% of vehicle population inspected annually.	0	0	0	0	55	54	53	53	54	54
Stationary Source Controls	See preceeding table.	163	166	384	469	944	1,074	1,095	2,283	2,315	2,550
TOTAL		163	166	384	469	999	1,128	1,148	2,336	2,369	2,614

## Option II: Annual Inspection MVIP and Stationary Source Controls

Control Measure	Description	Yearly Cumulative Emission Reductions (tons/year)									
		1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Annual Inspection MVIP	Assumes 100% of eligible motor vehicle population is inspected annually.	0	0	0	0	317	314	310	307	312	316
Stationary Source Controls	See preceeding table.	163	166	384	469	944	1,074	1,095	2,283	2,315	2,550
TOTAL		163	166	384	469	1,261	1,388	1,405	2,590	2,627	2,876

Figure 2  
Mobile Source Controls  
Merced County Air Quality Plan

Impact of Reasonably Available  
Control Measures Upon Projected  
Reactive Organic Gas (ROG) Emis-  
sions in Merced County  
(to nearest hundred tons)

Source: Merced County Air Quality  
Plan (NAP) 1978

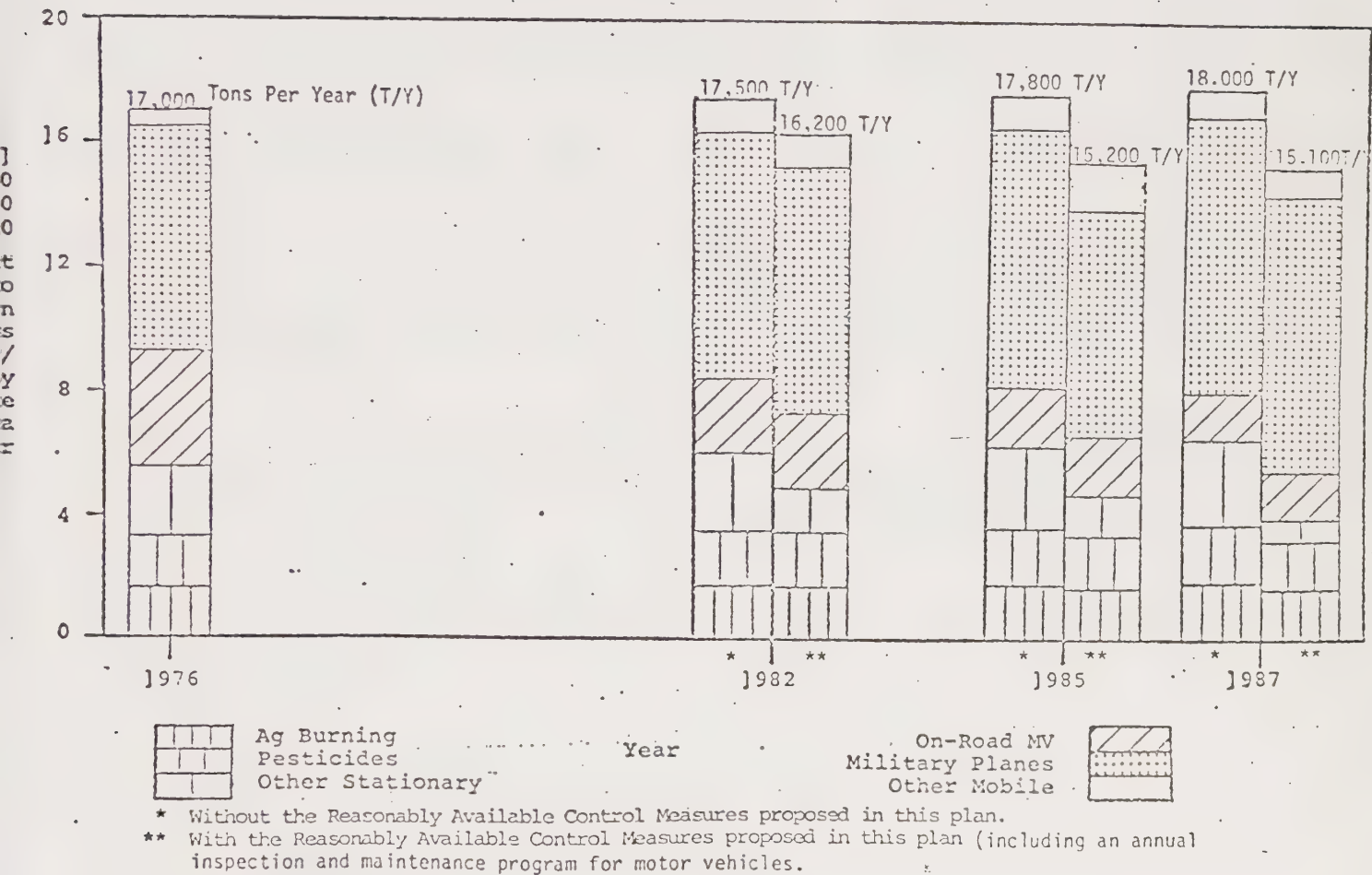


Figure 3  
Sources of Major Air Pollutants  
(ROG) in Merced County

VI. SIGNIFICANT IMPACT ON THE ENVIRONMENT THAT CANNOT BE  
MITIGATED IF PROPOSED GENERAL PLAN REVISION IS IMPLEMENTED

The following significant adverse impact on the environment, which cannot be mitigated, would be created if the General Plan is implemented:

1. Annual population growth of 3-5 percent.
2. Loss of about 80 acres of prime agricultural land, Class II soil.
3. Loss of land in agricultural uses which is less than prime soil.
4. Reduction of energy, water and some natural resources used for construction.
5. Impact on municipal services.
6. Increased air pollution.
7. Individual septic tank system, if allowed, will contribute to the groundwater pollution.

VII. ALTERNATIVES TO THE PROPOSED GENERAL PLAN REVISION

1. "No Project" Alternative

"No project" would mean that the General Plan could not be revised and land uses as established with the "Bellevue North Revision" would have to be implemented, which designates all 310 acres south of Gertrude, between Shaffer and Winton Way as "Rural Residential", being one dwelling for every acre of land, which is not economically feasible for the City to service. It is not in the interest of good planning, air quality, energy conservation and affordability of homes for the general public. Annexation of rural density development would bring many protests from the present residents of that rural area, who want to remain in the County with septic tanks and individual water wells.

The area between the present City limits and Buhach Road, including the vineyards, were shown as low density residential in the 1968 General Plan, allowing not more than 4.3 units per acre. Again, this low density would not help improve the housing shortage for low and moderate income families, because the prices would keep those developments out of reach for many people. The City would not get enough revenue to service that large low density area.

South of the present City boundary are over 400 acres shown for future industrial expansion, to remain agricultural preserve at this time. "No project" would mean that the City would have to stop expanding, once all land suitable for industry is built up inside City limits.

Property owners, school buses, and visitors would have to travel one mile farther to their destinations, which would be detrimental to the air quality and energy conservation.

The "No project" alternative would not be in the best interest of the general public because it would create only exclusive zoning, which would be a hardship on the young, the elderly, the low and moderate income families, as well as the City government, who would not have the financial means to service future developments.

#### More Compact Development with a Reduced Growth Area

This alternative would have more good than adverse impacts. The good impacts are that public services would not have to cover such a large area, police and fire response time would be reduced, cars would not have to travel quite so far to get to the same destination which, in turn, saves energy and produces less air pollution. More agricultural lands could be preserved.



The adverse impact would be that higher densities could result in high crime rates, less privacy for people, a lowered standard of living and morale factor.

This alternative would provide more positive than negative impact, and should be further evaluated.

3. Less Compact Development, and a Larger Urban Expansion Area  
This would create the same effect as the "no project" alternative, by creating housing for the upper income level, using more agricultural land, creating more air pollution and wasting more energy. The City would not be able to provide all services to that large an area with not many revenues generating from that area.
4. Less Compact Development, with a Reduced Growth Area  
This alternative, again, would not help the general public, and would add to the low-density developments we have. Without expanding the City's boundary much, all land would soon be filled up and the City would have to stop growing, not being able to provide housing for those who don't qualify for a low-density subdivision home. It also would not give the City the population increase needed to attract commercial and industrial developments.

#### VIII. GROWTH-INDUCING IMPACT OF PROPOSED GENERAL PLAN REVISION Residential Land Use Designations

The General Plan itself is not considered to be growth-inducing because it will help to provide housing that is needed in this area. Personnel stationed at Castle Air Force Base need dwelling units as renters or owners. If the City of Atwater cannot provide the housing needed, people will have to travel farther between Castle and Merced, which requires more use of energy for traveling, creates

more air pollution, and is against the goals and policies listed in this plan. People who can financially afford it will build their homes in the County near the base, using more agricultural land for each residence, and having individual septic tanks which add to the existing water pollution because the hardpan below the surface soil prohibits leaching. The individual water wells would cost much more energy to use than the municipal water system, because the upper aquifer is polluted and property owners have to drill much deeper into the lower water bearing strata to get clean water. The sprawl of rural estates requires more traveling and energy use, children have to be bussed farther to school, the air would get more polluted and the City's police and fire personnel - through the mutual aid agreement with the County - would have to service the area without any revenues coming to the City.

Providing land inside City limits for residential developments cannot be considered "growth-producing", but in fact it could eliminate or reduce some of the significant adverse effects the over 2,000 acres of approved county rural residential centers would have on our community.

#### Commercial Land Use Designations

Lands designated for future commercial developments will not entice a business entity to settle here, causing the growth after the fact. The City needs a few thousand more people before we can get good commercial development and become "self-supporting".

The commercial land use designations in the proposed general plan will have no growth-inducing impact.

#### Industrial Land Use Designations and Industrial Reserve

Industries, as well as commercial companies, prefer settling in an area where a large number of people can be counted on for support. It is

not likely that the lands set aside for industry will be growth-inducing. There is a slight possibility that industry could become growth-inducing at some future date. This situation could happen if too much industrial development should occur because our land is very inexpensive compared to most other California areas, before the needed population base exists.

Unemployment in Merced County is projected by the State at 11.3% in 1981, and 10.9% in 1982. Applied to Atwater, that means that the City presently has about 2,065 people unemployed. Assuming a 4% population growth within the next 12 months, the unemployment would rise to 2,071.

It is assumed that an average of 10 people will be hired per acre, because the municipal wastewater treatment plant will not have reserve capacity for high-density industrial development, such as a food-processing plant that would hire more people per acre.

Inside the City limits are 193 acres zoned for industry but still vacant. Assuming that all 193 acres will get developed, 1930 people could find employment, drawing mainly on those presently unemployed. At that time the industrial development would not be growth-inducing.

185 acres in the Primary Growth Area are designated for industrial uses, to be held as "Urban Reserve" until needed. If those acres would be zoned for industry prematurely, before Atwater has the population to justify more industry, then the industrial designation would become growth-inducing.

#### IX. SHORT-TERM GAINS VERSUS LONG-TERM IMPACT

The short-term gain desired by the City of Atwater is additional population, in order to provide a larger trade area for interested commercial businesses. Being mainly a "bedroom" community, the municipal government is in dire need of revenues.

The expected increase of military personnel at Castle Air Force Base will create the need for more housing in the local area, which can be provided only if this revision to the General Plan is being adopted.

The long-term impact caused by the revision to the General Plan as presented, is the need to attach mitigating measures to new development, to prevent most significant adverse impacts on the community.

The other long-term impacts are:

1. The loss of about 80 acres of prime agricultural land;
2. The conversion of agricultural crop land (not prime) to urban uses;
3. The financial drain on municipal services that will have to cover a much larger area;
4. Reduction of ground water, energy, and some natural resources that will be used in the construction of buildings;
5. Increase in air pollution.

#### X. PEOPLE AND ORGANIZATIONS CONTACTED

For people and organizations that were contacted, please refer to the Bibliography and Appendix of the General Plan.



XI. COMMENTS RECEIVED DURING THE REVIEW PERIOD AND RESPONSE

1. Public Hearings

Comments received during Planning Commission and City Council public hearings were directed at items in the General Plan, and none addressed impact on environment.

2. Written Comments Received and Responses

a. Department of Water Resources, State of California: A Water Conservation Element will be prepared, at which time staff will take advantage of assistance offered.

b. Air Resources Board, State of California:  
The Environmental Impact Report has been revised and includes the extensive coverage requested.

No figures have been prepared for the Alternatives. While there will be more emission from vehicles when the same number of people live in lower density developments and spread over an additional square mile of land, the difference in emission will be so minimal that it does not show in the figures. Air quality has been addressed under Alternatives in form of a statement.

c. Merced County Department of Health, Division of Environmental Health:

The text in the General Plan has been revised in response to items 1 and 2. Reference to retro-fitting new homes, which was included under mitigation measures in the Draft E.I.R., has been eliminated.

Reference to Atwater's compliance with waste discharge requirements has been answered by Atwater's former

Public Works Director. His memo is attached to Exhibit "C" in the appendix.

- d. State of California Department of Health Services,  
Environmental Health Branch: No response needed.
- e. State of California Department of Health Services,  
Sanitary Engineering Branch:  
Item 1 has been revised in the Draft General Plan, Item 10 has been revised in the E.I.R. Items 2 through 9 have been added to the Final E.I.R.
- f. Department of Transportation, State of California:  
Items 1 through 6 and 8 through 10 do not need a response, since they concern recommendations in the Draft General Plan "to be studies" or "to be considered". The comments from this agency will be taken under advisement at the appropriate time.

Item 7 refers to parking bays and the high number of backing accident they generate. They are not allowed on State highways. Our response is that we agree, they should not be allowed on highways. In Atwater's General Plan they are recommended in low density residential areas, to replace parallel parking when narrower street width is being permitted. We do not see a difference between backing out of a residential driveway or a parking bay.

The statement that no sidewalks are provided does not apply. Sidewalks are a City requirement, but are not recommended to be located adjacent to the curb, and to eliminate the parkway between sidewalk and curb.

- g. Office of Planning and Research, State of California:  
No response required.



Population

50,000

45,000

40,000

35,000

30,000

25,000

20,000

15,000

10,000

1980

1985

1990

1995

2000

18,270

58,595  
@ 6 %

Year  
2001

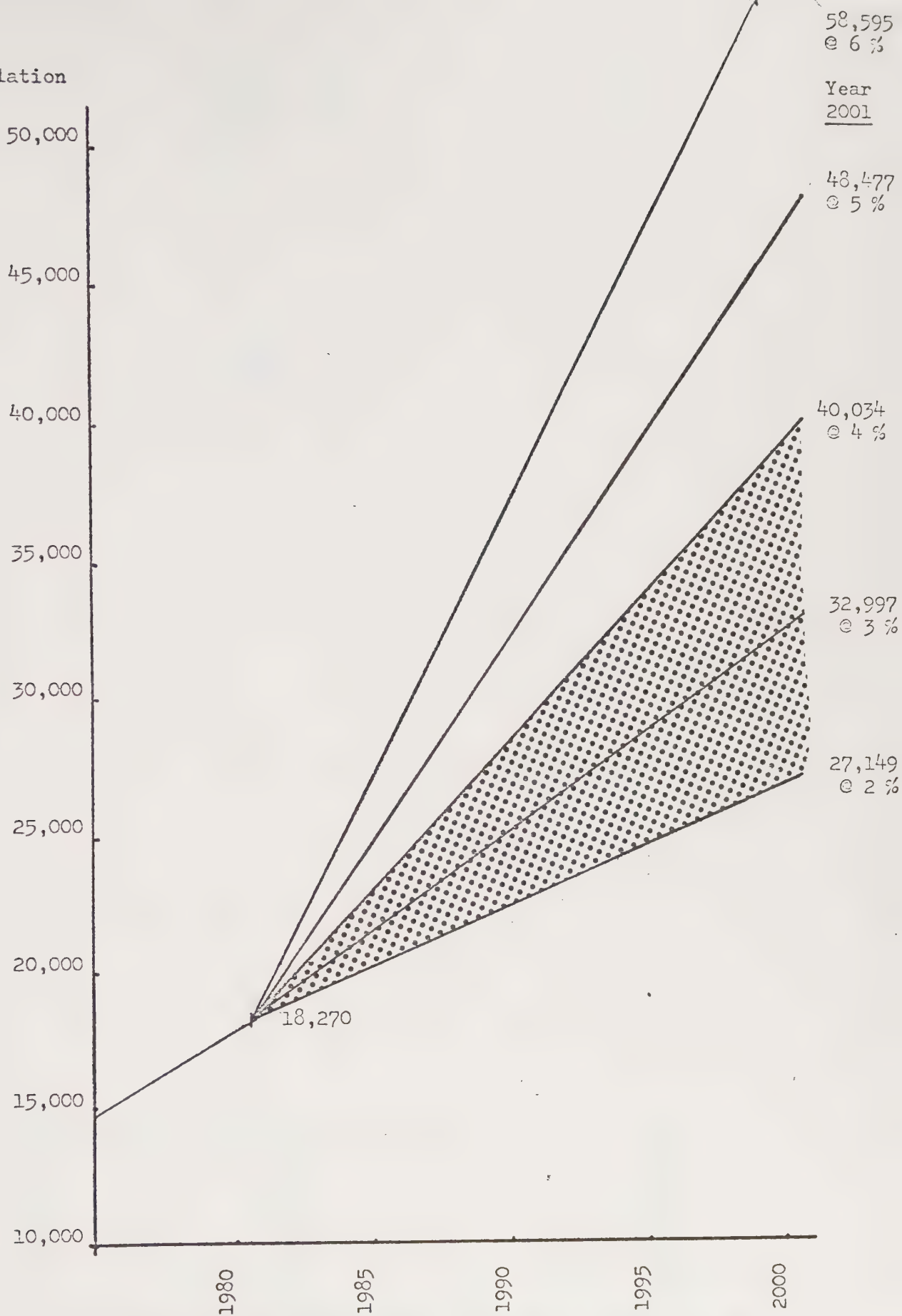
48,477  
@ 5 %

40,034  
@ 4 %

32,997  
@ 3 %

27,149  
@ 2 %

# POPULATION PROJECTION







ACREAGE AND POPULATION BY THE YEAR 2000

CITY OF ATWATER

	ACREAGE	%	ACRES DEVELOPED	ACRES VACANT	% VACANT	DENSITY UNIT/AC	TOTAL UNITS	PPH	POP.
<u>INSIDE CITY LIMITS (1981)</u>									
Residential	1,270	48.0	1,032	238	18.7	6.22	6,421	2.85	18,270
Commercial	241	9.1	119	122	50.6				
Industrial	263	9.9	70	193	73.4				
Public or Open Space	873	33.0	873	---	----				
TOTAL	2,647	100.0	2,094	553	21.0		<u>6,421</u>		<u>18,270</u>
<u>INFILL</u> (Vacant residential land above)				238		6.0	<u>1,428</u>	3.0	<u>4,284</u>
<u>PRIMARY GROWTH AREA</u>									
Residential	520	52.3	24	496	95.0	8.0	3,968	3.0	<u>11,904</u>
Commercial	68	6.8	--	68	100.0				
Industrial	32	3.2	32	--	---				
Public or O.S.	153*	15.4	143*	10	6.5				
Urban Reserve (C or M)	222	22.3	--	222	100.0				
SUBTOTAL	995	100.0	199	796	79.5				
TOTAL							11,817		34,458
<u>CASTLE AIR FORCE BASE</u> 2,570 acres developed									
<u>URBAN EXPANSION AREA</u> (Not included in Primary Growth Area)									
108 acres Rural Residential (existing)									
935 acres in Agricultural Preserve (held in reserve for future industrial, commercial, residential use open space or public)									
1,043 acres total									

\*includes Rancho Del Rey Golf Course



APPENDIX I  
ENVIRONMENTAL CHECKLIST FORM  
(To Be Completed By Lead Agency)

I. Background

1. Name of Proponent City of Atwater
2. Address and Phone Number of Proponent (209) 358-5606, Ext. 48  
750 Bellevue Road  
Atwater, Ca. 95301
3. Date of Checklist Submitted \_\_\_\_\_
4. Agency Requiring Checklist \_\_\_\_\_
5. Name of Proposal, if applicable General Plan Revision 1981-2001

II. Environmental Impacts

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?	_____	_____	<u>X</u>
b. Disruptions, displacements, compaction or <u>overcovering</u> of the soil?	<u>X</u>	_____	_____
c. Change in topography or ground surface relief features?	_____	_____	<u>X</u>
d. The destruction, covering or modification of any unique geologic or physical features?	_____	_____	<u>X</u>
e. Any increase in wind or water erosion of soils, either on or off the site?	_____	_____	<u>X</u>
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?	_____	_____	<u>X</u>



	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	_____	_____	<u>X</u>
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?	_____	<u>X</u>	_____
b. The creation of objectionable odors?	_____	_____	<u>X</u>
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or <del>regionally</del> ?	_____	<u>X</u>	_____
3. Water. Will the proposal result in:			
a. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?	_____	_____	<u>X</u>
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface runoff?	<u>X</u>	_____	_____
c. Alterations to the course or flow of flood waters?	_____	_____	<u>X</u>
d. Change in the amount of surface water in any water body?	_____	_____	<u>X</u>
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?	_____	_____	<u>X</u>
f. Alteration of the direction or rate of flow of ground waters?	_____	_____	<u>X</u>
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	_____	<u>X</u>	_____
h. Substantial reduction in the amount of water otherwise available for public water supplies?	_____	_____	<u>X</u>
i. Exposure of people or property to water related hazards such as flooding or tidal waves?	_____	_____	<u>X</u>

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
4. <b>Plant Life.</b> Will the proposal result in:			
a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?	_____	_____	<u>X</u>
b. Reduction of the numbers of any unique, rare or endangered species of plants?	_____	_____	<u>X</u>
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	_____	_____	<u>X</u>
d. Reduction in acreage of any agricultural crop?	<u>X</u>	_____	_____
5. <b>Animal Life.</b> Will the proposal result in:			
a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms or insects)?	_____	_____	<u>X</u>
b. Reduction of the numbers of any unique, rare or endangered species of animals?	_____	_____	<u>X</u>
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	_____	_____	<u>X</u>
d. Deterioration to existing <del>fish</del> or wildlife habitat?	_____	<u>X</u>	_____
6. <b>Noise.</b> Will the proposal result in:			
a. Increases in existing noise levels?	_____	<u>X</u>	_____
b. Exposure of people to severe noise levels?	_____	<u>X</u>	_____
7. <b>Light and Glare.</b> Will the proposal produce new light or glare?	_____	<u>X</u>	_____
8. <b>Land Use.</b> Will the proposal result in a substantial alteration of the present or planned land use of an area?	<u>X</u>	_____	_____
9. <b>Natural Resources.</b> Will the proposal result in:			
a. Increase in the rate of use of any natural resources?	<u>X</u>	_____	_____

	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
b. Substantial depletion of any nonrenewable natural resource?	_____	_____	<u>X</u>
10. Risk of Upset. Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	_____	_____	<u>X</u>
b. Possible interference with an emergency response plan or an emergency evacuation plan?	_____	_____	<u>X</u>
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	<u>X</u>	_____	_____
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?	<u>X</u>	_____	_____
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	<u>X</u>	_____	_____
b. Effects on existing parking facilities, or demand for new parking?	<u>X</u>	_____	_____
c. Substantial impact upon existing transportation systems?	<u>X</u>	_____	_____
d. Alterations to present patterns of circulation or movement of people and/or goods?	_____	<u>X</u>	_____
e. Alterations to waterborne, rail or air traffic?	_____	_____	<u>X</u>
f. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?	<u>X</u>	_____	_____
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:	<u>X</u>	_____	_____
a. Fire protection?	<u>X</u>	_____	_____
b. Police protection?	<u>X</u>	_____	_____
c. Schools?	<u>X</u>	_____	_____

N - 62



	<u>Yes</u>	<u>Maybe</u>	<u>No</u>
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	_____	_____	<u>X</u>
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	_____	_____	<u>X</u>
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?	_____	_____	<u>X</u>
<b>21. Mandatory Findings of Significance.</b>			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	_____	_____	<u>X</u>
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	<u>X</u>	_____	_____
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	<u>X</u>	_____	_____
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	_____	_____	<u>X</u>

### III. Discussion of Environmental Evaluation

### IV. Determination

(To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED.

☐

I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☒

April 14, 1981

Date

Trudi Mestnik

Signature Trudi Mestnik, Planning Director

For City of Atwater



# **APPENDIX**

## **COMMENTS**





**Memorandum**

To : 1. James W. Burns  
Assistant Secretary for Resources  
The Resources Agency

Date : September 4, 1981

File No.:

2. Trudi Mestnik  
Planning Director  
City of Atwater  
750 Bellevue Road  
Atwater, CA 95301

Subject: Atwater General  
Plan, 1981-2001  
(SCH No. 81080652)

From : **Department of Water Resources**

We have reviewed the draft 1981-2001 General Plan for the City of Atwater.  
We offer the following comment.

The General Plan is a policy document which provides guidance and sets forth policies for future development in the City of Atwater. The draft General Plan does not have a water conservation element; however, on page K-36 the report states that a water conservation element will be prepared and incorporated into the City's General Plan. A list of possible water conservation measures to aid in the development of the water conservation element is attached for your information. The Department's Office of Water Conservation assists communities in developing water conservation policies. If you need assistance or additional information, please contact the Office of Water Conservation at (916) 323-4806.



Louis A. Beck, Chief  
San Joaquin District  
(209) 445-5222

Attachment

cc: Suzanne Butterfield, Chief  
Office of Water Conservation  
Department of Water Resources  
1416 Ninth Street, Room 816-8  
Sacramento, CA 95814



## Water Conservation Measures

### Required by law for new construction:

1. Low-flush toilets (Section 17921.3 of the California Health and Safety Code).
2. Low-flow showers and faucets (California Administrative Code, Title 24, Part 6, Article 1, T20-1406F).
3. Insulation of hot water lines in water recirculating systems (California Energy Commission regulations).

### Recommended where applicable:

#### Interior:

1. Maintain water supply line pressure of less than 50 pounds per square inch by means of a pressure-reducing valve.
2. Limit flush-valve-operated water closets to 3 gallons per flush.
3. Equip all drinking fountains with self-closing valves.
4. Insulate hot water pipes in existing structures.
5. In hotels and motels, equip all baths/showers with thermostatically controlled mixing valves and post water conservation reminders in all rooms and restrooms.
6. Require water-conserving washer models in laundry facilities.
7. In restaurants, serve drinking water only upon request and require the use of water-conserving dishwashers or retrofitting spray emitters.

#### Exterior:

1. Landscape with low-water-consuming plants wherever feasible.
2. Minimize use of lawn by limiting it to lawn-dependent uses, such as playing fields.
3. Use mulch extensively in all landscaped areas. Mulch applied on top of soil will improve the water-holding capacity of the soil by reducing evaporation and soil compaction.
4. Preserve and protect existing trees and shrubs. Established plants are often adapted to low water conditions and their use saves water needed to establish replacement vegetation.
5. Install efficient irrigation systems which minimize runoff and evaporation and maximize the water which will reach the plant roots. Drip irrigation, soil-moisture sensors, and automatic irrigation systems are a few methods of increasing irrigation efficiency.



6. Use pervious paving material whenever feasible to reduce surface water runoff and aid in ground water recharge.
7. Grading of slopes should minimize surface water runoff.
8. Investigate the feasibility of utilizing reclaimed waste water, stored rainwater, or household gray water for irrigation.
9. Cluster development should be encouraged because it reduces the amount of impervious surface and preserves natural drainage systems, which amounts to a 6-percent reduction in water use when compared to standard grid subdivisions.
10. Flood plains and aquifer recharge areas which are the best sites for ground water recharge should be preserved as open space.

## AIR RESOURCES BOARD

1102 Q STREET

P.O. BOX 2815

SACRAMENTO, CA 95812



Date: September 10, 1981

TO: 1) Jim Burns, Projects Coordinator  
Resources Agency2) Trudi Mestnik, Planning Director  
City of Atwater  
750 Bellevue Road  
Atwater, CA 95301Project Title: General Plan 1981-2001 SCH. No. 81080652

## Project Description:

Location	San Joaquin (AIR BASIN)	Merced (COUNTY)	Atwater (SPECIFIC LOCATION)
Impacts	NA (ACRES)	134,489* (POP)	+4,160 (DWELLING UNITS)
			90,000 (ADT)
			NA (VMT)

## Evaluation of Air Quality Analyses:

Analysis of:	Adequate	Inadequate	Comment Number
Environmental Setting	X		
Impact of Project Proposal and Alternatives		X	1
Mitigation Measures for Project Proposal and Alternatives		X	1
Cumulative Impacts		X	1
Other			

\* Present Population.

Mr. Burns  
Ms. Mestnik

-2-

September 10, 1981

COMMENTS:

1. The DEIR includes alternatives to the proposed General Plan. However, the DEIR has not performed the necessary analysis demonstrating which of these alternatives would have the least air quality impacts. The air quality impact of each alternative needs to be addressed; including the following topics:
  - a) The need for the alternative chosen to specifically address location and density of development in the county through the year 2001. This discussion should include any air quality impacts from future development on the surrounding agricultural land. This will enable a determination of consistency of the future projects with the air quality plan;
  - b) Legally enforceable air quality mitigation measures which are needed to become part of the General Plan. Responsible individuals or agencies also need to be identified for implementation of these measures.

We realize that air quality is one of many considerations in evaluating all the alternatives to accommodate growth. However, selecting an alternative that gives high priority to air quality also supports energy conservation and lower costs for transportation.

ARB requests notification of future hearings/workshops.

Yes   X   No           

ARB requests final EIR for review.

Yes   X   No           

Reviewed by   Sue Scott   (916) 445-0960  
(NAME) (TELEPHONE NUMBER)

Sincerely,



Gary Agid, Chief  
Local Project Support Branch

cc: D.A. Mack, M.D., Merced County APCD  
S. Binnendyk, OPR



# DEPARTMENT OF HEALTH

## DIVISION OF ENVIRONMENTAL HEALTH

210 E. 15th St., P.O. Box 471

Merced, California 95340

(209) 726-7391

DOUGLAS A. MACK, M.D.

DIR. OF HEALTH

September 16, 1981

WILLIAM F. NORMAN, DIRECTOR

DIV. OF ENVIRONMENTAL HEALTH

Trudi Mestnik  
City of Atwater Planning Dept.  
Civic Center  
750 Bellevue Road  
Atwater, CA 95301

Dear Trudi:

The Division of Environmental Health has reviewed the draft general plan for the City of Atwater and has the following comments:

1. On Page D-16, concerning water pollution, the County Health Department did not warn residents outside Atwater city limits to drink bottled water. The Health Department did recommend to individuals with wells to have their water tested for DBCP. If the DBCP concentration exceeded 1 ppb, then it was recommended they use bottled water or to boil the water.
2. The County Health Department does not feel it is necessary to discontinue use of any Atwater City wells unless bacteriological or chemical standards are over the maximum contaminant level. (Page K-19)
3. Atwater's sewage treatment plant is currently having difficulty complying with the waste discharge requirements as set by the Regional Water Quality Control Board. Retro-fitting new homes to utilize sewage effluent for home laundry and watering lawns is a very remote possibility. (Page N-19)

Very truly yours,

William F. Norman, Director  
Division of Environmental Health

By: Jeff Palsgaard, R.S.

WFN/JP/pg



January 11, 1982

TO: TRUDI MESTNIK - PLANNING DIRECTOR  
FROM: LEON MARTIN - DIRECTOR OF PUBLIC WORKS  
SUBJECT: RESPONSE TO COMMENTS REGARDING TREATMENT PLANT

This memo is in response to a comment that you received stating that the Atwater Wastewater Treatment Plant was not meeting the requirements of the State Regional Water Quality Control Board.

I have reviewed the reports on the Treatment Plant effluent and have discussed this with representatives of the State Regional Water Quality Control Board. I find that we meet all requirements set forth by the Regional Water Quality Control Board with the exception that we have a disagreement in the required level of chlorine residual.

The Atwater Plant was designed and constructed to meet discharge requirements that did not include any limit on chlorine residual.

The Operation and Maintenance Manual calls for the plant to be operated with a chlorine residual ranging from 3 to 10 mg/l. The requirements have now been changed to impose a limit of 1.0 mg/l. To resolve this situation we have proposed to the State Regional Water Quality Control Board that the sampling point be changed to a point sufficiently downstream that the chlorine has dissipated to meet the 1.0 mg/l requirement. From our discussion with the Regional Water Quality Control Board personnel we feel that this will be accepted.



Leon B. Martin  
Director of Public Works/  
City Engineer

LBM:d1

**Memorandum**

To : Steve Williamson  
State Clearinghouse  
1400 10th Street  
Room 121

Date : SEP 03 1981

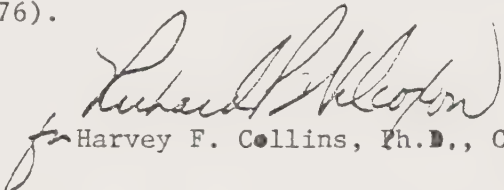
Subject: SCH# 81080652  
Atwater General  
Plan  
MERCED COUNTY

From : Environmental Health Branch

The Sanitary Engineering Section of the State Department of Health Services has reviewed the above subject document. Our comments are as follows:

1. Section II of the document entitled Hazards provides sufficient information concerning the groundwater quality in the area surrounding Atwater to alert city planners to potential and existing water quality problems that will need to be addressed as the City expands its water supply and wastewater collection treatment and disposal systems.
2. We concur with the Development Policies related to Water Resources and wastewater treatment systems outlined on pages K-3, K-4, K-19, K-35 and K-36 of the document.

For any questions regarding the above comments, please contact Gunter A. Redlin, Supervising Sanitary Engineer, State Department of Health Services, 5545 East Shields Avenue, Fresno, California 93727 (Telephone (209) 291-6676).

  
for Harvey F. Collins, Ph.D., Chief

cc: Merced County Health Department



## DEPARTMENT OF HEALTH SERVICES

5545 EAST SHIELDS  
FRESNO, CA 93727  
(209) 291-6676



November 18, 1981

Trudi Mestnik, Planning Director  
City of Atwater  
Civic Center  
750 Bellevue Road  
Atwater, CA 95301

Dear Ms. Mestnik:

This is to acknowledge receipt of the "City of Atwater General Plan 1981-2001" draft report for our review and comments.

Our principal interests in this report deal with groundwater quality aspects for domestic use and waste disposal aspects that may affect groundwater quality.

Our comments and recommendations are as follows:

1. Page C-19 The last sentence should be deleted. Potable water is not produced after six days in an aquacell. In fact, the Hercules project has been a disappointment to date.
2. Page D-16 The warning to residents outside Atwater's city limits by the Merced County Health Department was only extended to private well owners whose wells were tested for DBCP and only where the test result was in excess of our 1.0 ppb Action Level. It is quite possible that numerous private wells have not yet been tested. Many of these untested wells could be high in DBCP and possibly nitrates. We strongly agree that all private wells to be approved in the future must be carefully drilled to avoid possible DBCP and/or nitrate contamination hazards. This may require much deeper well construction than used in the past when only quantity, rather than quality, was the main consideration.

The extent of the organic groundwater contamination around Castle Air Force Base (now known to exist both on and off the Base) has not yet been fully documented. We agree that this still undefined problem should be taken into full consideration when approving new private wells in this general vicinity and in the vicinity downstream (groundwater flow direction) from the wells known to be affected.





3. Page K-4 We endorse the first paragraph recommendation to keep septic tank construction around the periphery of Atwater to a minimum. This constitutes good planning as it maximizes groundwater quality protection not only for individual well owners but also the wells operated by the City of Atwater. The quality parameter of main concern is nitrate. The other parameter, namely pathogenic bacteria, is usually not a problem if adequate separation distances between sewage disposal systems and wells (100 feet for leachfields and 150 feet for cesspools and seepage pits) are maintained.

4. Page K-19 Water Quality

First Paragraph This paragraph should not be deleted for reasons already mentioned.

Second Paragraph This paragraph should be deleted. All of the Atwater wells are still in compliance with Drinking Water Standards. This paragraph could be substituted with language that existing wells be monitored closely for water quality changes.

Third Paragraph This is planned for one or two new wells now being considered.

Fourth Paragraph Change to "...in the Atwater area..." if risk to water and air pollution cannot be effectively controlled."

5. Page K-20 Toxic Waste

Fourth Paragraph We agree with keeping future private well construction around Atwater to a minimum. Developers should tie into the city water system or provide small community water systems that can later be connected to the city water system when the city system is extended into outer areas in future years. Developers may oppose this recommendation because of costs but it constitutes good planning and provides a health protection for the general public who otherwise drink water from private wells. Such wells are not periodically inspected and monitored for quality by health department personnel.

6. Page K-35 Wastewater Treatment Plants

For protection purposes of the City of Atwater's groundwater supply, the city should have concerns on the construction of package sewage treatment and percolation disposal facilities. This is especially true if such facilities are constructed upstream of the city's water wells. Such facilities can also adversely impact nearby private wells.

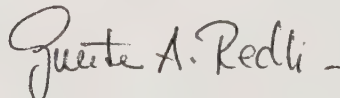
7. Pages N-1 and N-17 The construction of many private sewage disposal systems and package sewage treatment plant and disposal facilities could have a significant impact on water quality to both the city and rural private wells.
8. Page N-14 Approving rural residential subdivision near the city's sewage treatment plant seems questionable to us because of possible odor and water quality considerations. The water quality issue can be mitigated by requiring hookup to the city water system.
9. Page N-18 Add possible water degradation under significant effects if private sewage disposal systems are allowed. Add mitigation measures for water quality protection such as sewerage to the city system.
10. Page N-19 We do not agree that Atwater plant effluent should be considered for reuse in new homes for watering lawns, washing laundry, etc., for many reasons dealing with public health protection. If necessary, increased use for agricultural irrigation should be the desired alternative.

Winton Sewage Plant Reactivation

We share your concern that the Atwater Regional Plant expansion requirement (to enable a larger allotment to Winton) needs to be solved soon to prevent the proliferation of numerous private sewage disposal systems in and around Winton and near Atwater.

The opportunity to review and comment on your report was appreciated.

Sincerely,



Gunter A. Redlin  
Supervising Sanitary Engineer  
SANITARY ENGINEERING BRANCH

GAR/kh

cc: Merced County Health Department

## Memorandum

To : Ms. Ann Barkley, Chief  
Division of Transportation Planning

Date: September 4, 1981

Attn: Mr. F. Darrell Husum, Jr.  
A-95 Coordinator

File : 10-Mer-99  
Atwater General Plan  
SCH 81080652

From : DEPARTMENT OF TRANSPORTATION  
D. L. Wieman, District 10 Director

Subject:

We have reviewed the above-noted report and offer the following comments:

1. Pg K-25: The fourth paragraph recommends that Bellevue Road be extended to Grove and to Highway 99 when State funding is available for an interchange. Funding is not likely to be available for some time. The sixth paragraph discusses redesign of the
2. west side of Applegate Road interchange. We should have input to this since the ramps are ours.
3. Pg K-28: The first paragraph requires widening of Applegate Road overcrossing to four lanes. Is the City prepared to pay for this?
4. Pg K-29: The second paragraph calls for the City to annex land to gain control of the Atwater Boulevard off-ramp and installation of traffic signals at the intersection with Shaffer Road. It's not likely we would turn the ramp over to the City. Traffic signals or a four-way stop will make the intersection worse due to the proximity of the off-ramp.
5. Pg K-31: The proposed signal at Buhach Road and Broadway is at the intersection with the northbound 99 off and on-ramps. We are against any signals here. The sight distance on the off-ramp is marginal, exiting traffic is traveling at a high speed, advance warning would be almost nonexistent, and there is no storage room for stopped vehicles due to the short ramp length.
6. Pg K-32: Second paragraph - A narrow curb or barrier on a street not wide enough for a traffic island presents a fixed object and safety hazard to vehicles.
7. Pg K-33,34: The report recommends parking bays with diagonal parking. Diagonal parking is not recommended due to the high number of backing accidents it generates. It is not allowed on state highways. No sidewalks are provided for pedestrians. The trees shown in the middle of street in the upper sketch are fixed hazards. Restriction of parking is a function of pavement width, not right of way.

"f"



Ms. Ann Barkley  
Attn: Mr. F. Darrell Husum

-2-

10-Mar-99

8. Pg K-43: If you don't have a combined parking area for each block, are you going to require a minimum number of off-street parking spaces per lot?
9. Area #1, Maps: The presence of school children is not a warrant for signals.
10. If any work is performed within the state highway right of way, an encroachment permit will be required. Application for the permit may be obtained at the Department of Transportation Office of the Maintenance Superintendent at 1801 Motel Drive, P.O. Box 311, Merced, CA 95340. Unless the applicant seeking an encroachment permit properly addresses the impacts affecting the state highway, his encroachment permit will be denied.

A minimum of 4 to 6 weeks is required to process the application and issue a permit. Complex projects require a considerably longer time.

Please send a copy of the final report to John Gagliano, Caltrans, District 10 Office, P. O. Box 2048, Stockton, CA 95201.

*John Gagliano*  
JOHN GAGLIANO, P.E.  
A-95 Coordinator  
(209) 948-7875  
ATSS 423-7875

JGE:jh

Attachment

cc: RJFelton



EDMUND G. BROWN JR.  
GOVERNOR

# State of California

GOVERNOR'S OFFICE  
OFFICE OF PLANNING AND RESEARCH  
1400 TENTH STREET  
SACRAMENTO 95814

916/322-6312

February 10, 1982

Trudi Mestnik  
Planning Director  
City of Atwater  
750 Bellevue Road  
Atwater, CA 95301

Subject: City of Atwater's Draft General Plan

Dear Trudi:

Thank you for sending me a copy of Atwater's Draft General Plan. I really haven't had the opportunity to respond sooner, and regret the delay in preparing these belated comments. Also, I haven't been able to review the plan in depth, but since I first received it I have been reviewing it a little at a time. My other pressing priorities have been to perform research and prepare planning agency advisory memoranda, copies of which are enclosed, to review general plans of other jurisdictions with official extensions, to respond to Governor's Office assignments, and to serve as temporary staff to the new Ponderosa County Formation Review Commission, among other duties.

However, after having reviewed portions of your plan, I wish I had made the time to review it sooner. I say this because I, as well as others in this office, feel that it is a commendable document from two important standpoints:

The plan serves as a good model for data and analysis. It gives a thorough treatment of existing conditions, projected conditions, and has a comprehensive collection of data that too many other jurisdictions overlook. The lack of data in other plans has given rise to purely arbitrary or political decisions that eventually do not serve the public trust. A comprehensive data base such as the one your plan provides is a good foundation for a legally defensible general plan.

"g"



February 10, 1982

The plan addresses issues on a smaller scale than many documents do. The neighborhood, or in many cases sub-neighborhood, scale of focus that the plan employs is unusual but effective. This approach apparently will allow the City to address specific problems immediately without putting them off for future planning commissions or city councils to grapple with. Even if no proposals are submitted in the immediate future, the plan's policies are clearly spelled out. There will be no question as to what the current decisionmakers intended if applicants submit proposals in the remote future when the former may no longer be in office or on the commission.

To thoroughly analyze the plan would take lots of intensive work. As mentioned before, we have to give priority to general plans with official on-going extension processes. When we evaluate a general plan for adequacy, we do so at three levels: (1) data and analysis, (2) policy, and (3) implementation. Undoubtedly you are aware that one of our principal concerns is a general plan's internal consistency, whereby:

- Policy flows logically from data and analysis;
- Implementation measures are derived from policy;
- General plan map designations are consistent with the general plan text's policies and implementation programs; and
- Various plan elements are consistent with each other in data, policy, implementation program, and map designation.

If the final adopted plan takes on the same characteristics of the draft and observes the above principles, I am confident that the City of Atwater will have a plan of which it can be proud. Please continue to keep in touch, Trudi, and I would appreciate your sending me a copy of the adopted version when it becomes available.

Sincerely,



Bob Cervantes  
Local Government Unit

BC/cg  
Enclosure





# APPENDIX



## REFERENCES

- Local Energy Initiatives, A Survey of Cities and Counties, California, 1980.  
State of California, Office of Appropriate Technology
- On Making Hard Choices, The Role of Cost/Revenue and Cost/Benefit  
Analysis, by Robert A. Lata, AICP, OPR Journal
- Strip Commercial Zoning, Memorandum from Williams, Cook & Mocine to  
Leon Pirofalo, Planning Director, City of Merced, May 27, 1968
- Toxic Waste in America, map on page 4 of Family Weekly, Merced Sun-Star  
January 11, 1981
- The Annual Planning Information, U. S. Department of Labor, Employment  
& Training Administration, Forecasts for 1980 - 1981
- Lay The Blame on Bay Area for Smog, Cheryl Clark, Modesto Bee, Septem-  
ber 3, 1980
- The Browning of America, Special Report, Newsweek, February 23, 1981
- Master EIR, East Merced Industrial Area, City of Merced, August, 1979
- California Environmental Quality Act Guidelines, as amended through April,  
1980
- General Plan Guidelines, State of California, Office of Planning and Research,  
1981
- U. S. Census, Preliminary Report, 1980 Census
- Population Projections, California State Department of Finance, 1981
- A Strategy for Energy Conservation, City of Davis, California, 1974
- Salinas: General Plan Program, Interim Development Policies, June,  
1973
- State Department of Health, Fresno .. ..
- Merced County Health Department, Environmental Health, Merced
- Public Works Director, City of Atwater
- Parks & Recreation Commission, Atwater
- General Plan Review Committee, Atwater, 1980-1981
- Areawide Housing Element, Merced County Association of Governments,  
1980



References (Continued)

Atwater Historical Society

Project Area Committee to the Atwater Redevelopment Agency

Merced County Air Quality Plan, (Nonattainment Area Plan for Ozone), Merced County, November, 1978

Merced County Air Pollution Control District, Rules and Regulations, Merced County Health Department, Environmental Health Division, as amended October 3, 1979

10th Progress Report on Trip Ends Generation, Research Counts, CalTrans, District 4, July, 1975

Bevland, Theodore, Noise, the Third Pollution, Public Affairs Committee, 1970

CalTrans, Noise Level Information for City and County General Plans, CalTrans, District 10 Environmental Branch, December, 1973, and April, 1975

Castle Air Force Base, Air Installation Compatible Use Zones, February, 1980

Castle Air Force Base, Jet Engine Aircraft Noise and the Community, U.S. Printing, Washington, D. C., 1972

Comprehensive Planning Organization, Environmental Noise Policy Study (Draft), CPO, San Diego, April, 1974

County of Merced, Noise Element of the General Plan, (Highway 99 noise contours), County of Merced, 1974

Environmental Protection Agency, Effects of Noise on Wildlife and Other Animals, U. S. Printing Office, Washington, D. C., December, 1971

Environmental Protection Agency, Noise Programs of Professional Organizations, Universities and Colleges, U. S. Printing Office, Washington, D. C., 1971

Fellmeth, Robert C. with Ralph Nadar Study Group, Politics of Land, Grossman Publishers, New York, 1973

Levin, Melvin R., Exploring Urban Problems, Boston University Urban Press, Boston, 1971

Orange County Health Department, Noise and the Proposed Orange County Noise Ordinance, Orange County Health Department, 1973

Stewart-Gordon, James, We Are Harming Ourselves With Noise, Readers Digest, February, 1970

## References (Continued)

U. S. Department of Commerce, The Noise Around Us, U. S. Printing Office, Washington, D. C., 1970

U. S. Department of Housing and Urban Development, Noise Assessment Guidelines, U. S. Printing Office, Washington, D. C., 1971

The Scenic Route, "A Guide for the Official Designation of Eligible Scenic Highways".

A Plan For Scenic Highways in California, "Citizens Advisory Committee on Scenic Highways", California Department of Public Works

Scenic Route Element of the General Plan, County of Merced, State of California

Scenic Highway Element - Proposed Element Draft Environmental Impact Report, "Los Angeles County General Plan"

Scenic Highways Element, Pleasanton General Plan, "Draft", "Department of Community Development"

Environmental Resources Element, "Comprehensive General Plan/City of Torrance"

Scenic Highway Report Route 152, "Between the Santa Clara County line and its junction with Route 5 west of Los Banos", State of California Division of Highways

Forest Landscape Description and Inventories, - "A Basis for Land Planning and Design"

Principles of Geology, Gilluly, Waters, Woodford; W. H. Freeman and Co., 1968

Earthquake County, Robert Iacopi; Lane Books, Menlo Park, 1972

Faults and Earthquakes In California, California Division of Mines and Geology, State of California, The Resources Agency, Department of Conservation; Selected Articles from past and recent issues

Urban Geology Master Plan for California, Bulletin 193, California Division of Mines and Geology, Sacramento, 1973

Hayward Earthquake Study, Planning Commission Subcommittee on Land Use and Development Regulation, April, 1972

Ground-Water Conditions and Storage, San Joaquin Valley, Geological Survey Water Supply Paper 1469, Davis, Green, Olmsted, and Brown, in cooperation with the California Department of Water Resources, 1959

The Book of Popular Science, Grolier Society, Inc., 1965

References (Continued)

- Revolution in the Earth Sciences, Peter J. Wyllie, Encyclopedia Britannica, Inc., 1971
- Earthquake and Geologic Hazards Conference, The Resources Agency, State of California, 1974
- The Restless Earth, Nigel Calder, The Viking Press, New York, N. Y.
- The San Fernando Earthquake of February 9, 1971, and Public Policy, Special Subcommittee of the Joint Committee of Seismic Safety, California Legislature, July 1972
- Geology and Underground Water Storage Capacity of the San Joaquin Valley, Hyde Forbes, California Division of Water Resources, Bulletin 29, 1931
- Earthquakes, Now Science Can Predict When and Where They'll Happen, by C. P. Gilmore, Popular Science, December, 1973
- California Geology, California Division of Mines & Geology, various issues, 1970 through 1980
- Erdbeben, Der Spiegel, Nr. 7, 1969, Germany
- Seismic Safety Element, Trudi Mestnik, County of Merced, 1973
- Safety in the County of Merced, Trudi Mestnik, Merced County Planning Department, 1973
- Soil Survey, Merced Area, California, U. S. Department of Agriculture, Soil Conservation Service, 1962
- Merced County Water Supply and Wastewater Management Study, Engineering Science Inc., Grunwald, Crawford & Associates, September, 1971
- Land Subsidence Due to Groundwater Withdrawal in the Los Banos - Kettleman City Area, California, Open-File Report, United States Department of the Interior, Geological Survey, and California Department of Water Resources, 1972, Parts 1 - 3
- The Closing Circle, Barry Commoner, Alfred A. Knopf, N. Y., 1972
- Future Environments of North America, Frazer Darling, A Natural History Press, 1966
- Environmental Conservation, Raymond F. Dasman, John Wiley & Son, 1972
- Vanishing Air, Ralph Nader's Study Group Report, Grossman Publishers, N. Y.
- The Scenic Route, "A Guide for the Official Designation of Eligible Scenic Highways"



## References (Continued)

Ground-Water Conditions and Storage Capacity in the San Joaquin Valley, California, Geological Survey Water-Supply Paper 1469, U. S. Department of the Interior in cooperation with the California Department of Water Resources, 1959

Interim Water Quality Control Plan, Central Valley Basin, Volume Two, State Water Resources Control Board, 1971

Report and General Soil Map, Merced County, California, U. S. Department of Agriculture, Soil Conservation Service, 1967

California Air Quality Data, California Air Resources Board, Technical Services Division, Sacramento, 1975

Air Quality in the San Joaquin Valley Air Basin, Air Resources Board, 1975

Merced County Health Department

A Guide in the Study of Environmental Pollution, W. A. Andrew, Prentice Hall, Inc., 1972

California Region Comprehensive Framework Study, California Region Framework Study Committee, Pacific Southwest Inter-Agency Committee Water Resources Council, 1971

- Appendix V - Water Resources, June 1971
- Appendix VI - Land Resources and Use
- Appendix VII - Mineral Resources
- Appendix IX - Flood Control
- Appendix X - Irrigation and Drainage
- Appendix XI - Municipal and Industrial Water
- Appendix XIII - Fish and Wildlife
- Appendix XV - Water Quality, Pollution and Health Factors

California Fish and Wildlife Plan, California Department of Fish and Game, Parts A and B, October 1, 1965

Soil Survey, Merced Area, California, U. S. Department of Agriculture, Soil Conservation Service, 1962

Soil Survey, The Los Banos Area, California, U. S. Department of Agriculture, Agricultural Research Administration, 1952

Merced County Water Supply and Wastewater Management Study, Engineering Science Inc., Grunwald, Crawford & Associates, September, 1971

Review Report for Flood Control on Merced County Streams, California, Department of the Army, June, 1969

Annual Report of Agriculture, County of Merced, 1972, Merced County Department of Agriculture



References (Continued)

Water Management Investigation, Drainage and Irrigation, Jorgensen-Tolladay Engineers, February, 1966

Mustang Creek Watershed, Merced County, Ballico Soil Conservation District, Turlock Irrigation District, Merced County, February, 1967

Wildlife Soils, Vegetation & Activities Affecting Water Quality, California Department of Conservation, Division of Forestry, July, 1971

General Plan for Merced County, Merced County, 1978

Seismic Safety Information, California Division of Mines & Geology, July 1972

Seismic Activity in the Vicinity of San Luis Reservoir, U. S. Department of the Interior, Bureau of Reclamation, November, 1970

Interim Guidelines for the preparation of the Environmental Resources Management Element of the General Plan, Appendix B, Tulare County Planning Department, Grunwald, Crawford & Associates, February, 1972

Facts About California Agriculture, University of California, Agricultural Extension, 1970

The California Tomorrow Plan, Alfred Heller, California Tomorrow, 1972

Ground Water Conditions and Storage Capacity in the San Joaquin Valley California, Geological Survey Water-Supply Paper 1469, U. S. Department of Interior in cooperation with the California Department of Water Resources, 1959

The Resources Agency of California, Department of Fish and Game

Letter from Department of Fish and Game, Pesticides Investigations, March 1973, regarding Rare and Endangered Species

A General Survey of Electrical Conductivity in Ground Water in the San Joaquin Valley, San Joaquin District, Department of Water Resources, in cooperation with most member agencies of the Friant Water Users Association and other agencies, 1971

Water Resources Development in California, U. S. Army Corps of Engineers, South Pacific Division, 1969

Interim Water Quality Control Plan, Central Valley Basin, Volume Two, State Water Resources Control Board, 1971

Report and General Soil Map, Merced County, California, U. S. Department of Agriculture, Soil Conservation Service, 1967

Regional Open Space Plan, Fresno County, June 1972 (Matrix)

A Plan For Scenic Highways in California, "Citizens Advisory Committee on Scenic Highways", California Department of Public Works

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